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*DIESEL RAILWAY TRACTION*

*The May issue of this* RAILWAY GAZETTE *publication, illustrating and describing developments in Diesel Railway Traction, will be ready on May 1, price 2s.*

## Looking Ahead in Transport

THE objectives specified in the Transport Act, 1947, include the co-ordination and integration of internal transport into one large business. It is for this reason that we have sometimes looked askance at the tendency to increase the number of Executives under the British Transport Commission. The original four Executives—Railway, Docks & Inland Waterways, Road Transport, and London Transport—have grown to six by the establishment of the Hotels Executive, which was envisaged in the Act, and by the splitting of the Road Transport Executive into two dealing separately with road haulage and road passenger transport. On occasion we have expressed the view that the railways, with their considerable interests in other forms of transport, might have formed a nucleus, that if a Railway and a Road Executive were considered necessary, then the operating areas or regions of both should have been co-terminous, and that ultimately implementation of the Act would require regional transport officers capable of dealing with, and responsible for, all forms of transport. All of these points have been dealt with in the last week or so by prominent members of the present British transport organisation. Sir Cyril Hurcomb, Chairman of the British Transport Commission, in an address last Friday to the Institute of Public Administration, in effect said that the first of these courses would have been travelling too fast. To have set up at once a number of regional transport boards or managements, under the general direction of some co-ordinating body, would have meant making use of the only existing framework for such a structure, which was the railway managements. It would have thrown on them a new complex of duties and the unification of the railway system itself would have been impeded. Whatever attempts might have been made to introduce new blood, it would have been apprehended by the less highly organised elements that the railways would be bound to exercise an unduly dominating influence through their great resources, long experience, and highly trained staff.

## Ultimate Organisation

SIR CYRIL HURCOMB, in his introduction to the *British Transport Review*, to which we referred briefly last week, agrees that the ultimate organisation needed is one which will sell transport and not merely one kind of transport, through a common commercial organisation working in the interests of British transport as a whole. In the same issue, Major-General G. N. Russell, Chairman of the Road Haulage Executive, points out that although integration cannot be carried out until all the parties to it are fully organised, it should not be assumed that nothing has been done. In conjunction with the Railway Executive, small beginnings have been made and liaison machinery has been established throughout the country. He agrees that the allocation of the same geographical areas to railways and road districts is one direction in which a start should be made. So far it has not been possible to achieve this, because of certain reorganisation measures within the Railway Executive and the necessity of giving the new Road Haulage District Managers territory within which to operate as soon as they are appointed. Careful attention has been given to the problem, however, and the areas allocated, where possible, have been made to conform with those of the Railway District Goods Managers.

## Chief Regional Officers

THE position of Chief Regional Officers in the present transport organisation has aroused a good deal of controversy. This was acknowledged by Sir Cyril Hurcomb in his paper to the Institute of Public Administration, and he went to some pains to explain the considerations which had led to the adoption of the present organisational arrangements. He said that with the railways unified into one system, the Chief Regional Officer was no longer a General Manager in the former sense, but he had a high responsibility of his own. This was to carry out essential functions of co-ordinating and making effective the policy of the Executive and the Commission within the Region. New situations might require new administration techniques. The successful discharge of the duties of the Chief Regional Officer made heavy demands on the personal gifts and qualifications of the occupant of the post. He paid a well-merited tribute to the present Chief Regional Officers when he said that the British Transport Commission was "fortunate in being able to find individuals with force of character and great experience fitting them to fill highly responsible and onerous posts in the Regions, where the all-important contacts with customers must take place and where direct contact with the staff must also be maintained and developed."

## British Diesel Makers' Visit to U.S.A.

THE report of the British diesel locomotive manufacturers' productivity team on its visit to the United States of America during January and February this year has been completed. It is in the hands of the Anglo-American Council on Productivity, under whose auspices the British productivity team, led by Colonel Ian A.

Marriott, then Managing Director of W. G. Bagnall Limited, made the visit. It is expected that the report will be published early in July. The importance of the investigation which the team conducted and the interest which has been aroused by statements during and since the tour lend weight to the need for prompt publication of the report. No time was lost by the team on its return to England in commencing the initial draft and any undue delay in making available the final and considered findings and recommendations would be regrettable. Much of the value of an investigation of this kind all too often can be lost if it is not made available speedily. Some of the general considerations which must arise from the report will be dealt with in an editorial article in the May issue of our associated monthly contemporary, *Diesel Railway Traction*.

## Overseas Railway Traffics

AFTER a £36,370 decline to £43,080 during the week ended April 9, Antofagasta (Chili) & Bolivia traffics improved from £48,630 to £57,860 in the following week. Receipts for the two weeks ended April 16 were down by £25,140 at £100,940 and on the aggregate now amount to £871,684 for the current 15 weeks, as compared with £1,013,214 during the same period of 1949. Paraguay Central traffics continued to show substantial improvements during the period under review and by April 14 were £1,669,883 better than for the equivalent 41 weeks of 1948-49. Receipts for the fortnight ended April 14 were £112,453 higher at £320,081 and on the aggregate amounted to £5,922,856. Advances in the receipts of railway, road motor, and electric street railway activities of the Victorian Railways during January brought the total traffics up to £2,000,259, a £490,658 improvement. Midland Railway of Western Australia railway and road service receipts during February were £3,578 higher at £30,534 and for the current 35 weeks are up by £12,087 at £242,095.

## Great Northern Railway (Ireland)

THE affairs of the Great Northern Railway (Ireland) continue to be unsatisfactory, as indeed they must until a decision is implemented as to its future. A statement by the company records that in the first quarter of this year there was a further fall in receipts, chiefly from main-line cross-border passenger traffic, and a reduction in expenditure compared with the similar period of 1949, as a result of enforced restriction of work and services. The loss on working was somewhat less than in the previous year, but the drain on cash resources has made necessary the early selling of further investments. After the recent annual general meeting, representations were made to the Governments of both the Republic of Ireland and Northern Ireland, and deputations were received by the Ministers concerned. The G.N.R. (I.) representatives were informed that the Ministers had only just received a report from their technical advisers and that this required full examination before proposals could be formulated. The railway spokesmen emphasised the injury to the company arising from the long delay which had occurred since the first pronouncements that it was intended to assume State responsibility for the undertaking. They also stressed the considerations relevant either to the restoration of an economic field for operating as an independent transport company or to a just valuation in the event of acquisition.

## The Sunderland-Hetton Experiment

JUDGING by our correspondence columns, much interest is still being taken in the North Eastern Region's experiment of January last between Sunderland and Hetton—the first and, so far, the only case where a determined effort has been made to win back passengers from road to rail by simultaneous improvement of train service and reduction of fares. The arrangements are well advertised locally, and the "sensational" (*vide* posters) reduced fare from Hetton to Sunderland and back, 1s. 2d. for the double journey of 17½ miles, is available by all trains without restrictions, save that the return is for day of issue only. Trains run at hourly intervals from 9.25 a.m. to 10.25 p.m., and are generally formed of three bogie vehicles—third, brake-third, and composite (sometimes with a workmen's coach as well)—and, no doubt for convenience of working at Sunderland, where there are no bay platforms, several of them work through to and from Newcastle, etc. A few of the hourly Hetton trains run forward to the next station on the branch, Pittington, but beyond that point the passenger service to Sherburn House and Durham (Elvet) was withdrawn in 1931. Grades are heavy all the way from Ryhope to Hetton, steepening to 1 in 42 near Seaton and 1 in 50 between Seaton and Murton, where the line to Hartlepool *via* Wellfield diverges, and time on journey from Sunderland to Hetton is usually 28 minutes.

## Courage Unrewarded

THE experiment was certainly a very courageous one, and it seems a pity that it was not made in an area where the dice were less heavily loaded against the railway. Ryhope, Seaton, and Murton all have the benefit of a sparse service to Hartlepool *via* Wellfield, as well as the Hetton trains, and Ryhope East has the coast service to Hartlepool in addition. The whole district is covered by buses, and at Murton the village is some way from the station. Hetton Station, which is in the village, is passed by some through buses to Newcastle and South Shields, as well as a frequent local service. Through no fault of British Railways, it would be difficult to find a station less attractive to the passenger than Sunderland, and travel by rail, through the dreary surroundings of an almost derelict branch, is undoubtedly less pleasant than the journey by road, without reckoning the great advantage of door-to-door transit. In these circumstances, it is hardly surprising that rail traffic is light, apart from Saturday business and some workmen on early morning and evening trains, and we had the distinction of being the only passengers on a mid-morning train from Sunderland to Hetton and back. Oddly enough, a journey in 1929 to Durham Elvet, when a service of eight or nine daily trains was provided, was nearly as barren of custom—one passenger into Elvet at 4.30 p.m. and three out on the 5.10 train!

## Platform Lighting with Fluorescent Lamps

ALTHOUGH there have been previous installations of fluorescent lighting at certain surface stations of London Transport, the new lanterns on the unroofed sections of platforms at Eastern Region stations between Liverpool Street and Shenfield, described elsewhere in this issue, are the first of their type on British Railways. The elongated shape of the lanterns has enabled the station names to be imprinted on their sides, and as those on the island platforms are mounted at right angles to the track, the names can be read easily by passengers in passing trains. The combination of ease in identifying stations at night combined with the even and adequate illumination of the platforms themselves are practical advantages that will be appreciated both by passengers using the recently electrified Shenfield services and those in main-line trains. Among the latter are travellers to and from the Continent *via* Harwich, whose impressions of the approach to London are likely to be free from the sense of gloom of which complaint sometimes is heard. The 5-ft. fluorescent lamps in the new lanterns are rated at 80W., but their light output in lumens per watt is over twice that of a 200-W. metal filament lamp, such as is not uncommon on platforms.

## Bridge Replacement on the Scottish Border

GOOD progress is being made with the replacement by permanent structures of the seven bridges over the Eye Water, near Grantshouse, on the East Coast main line, destroyed in the floods of August, 1948. The work is being carried out during a series of weekend possessions, and is due for completion before the summer service comes into operation on June 5. At Ayton, seven miles north of Berwick, where the collapse of the culvert carrying the Horn Burn under a high embankment impounded an artificial lake, a new culvert composed of concrete segments

is nearing completion, and a smaller overflow culvert already is in use. With the co-operation of the Department of Scientific & Industrial Research, electro-osmosis was used to assist in drying the waterlogged embankment. On Saturday last, members of the London Section of the Permanent Way Institution visited the works of P. & W. Maclellan Limited, in Glasgow, where the girders for the new bridges have been made and welded. On Sunday morning, the party travelled by road from Edinburgh to Berwick, and had an opportunity of inspecting the bridges and the works at Ayton.

### Berwickshire Bridge Reconstruction

THE Chirnside Bridge paper mills in Berwickshire are connected with the Reston and Duns branch of the Scottish Region of British Railways by a single-line siding. This crosses the River Whiteadder on a bridge of six 34-ft. spans, which before 1948 consisted of wrought-iron plate girders with timber decking, on masonry piers and abutments. During the floods of August, 1948, four of these spans and two of the piers were washed away, and the tops of two other piers and the south abutment were damaged. Restoration of this bridge, completed on February 4, 1950, consisted of rebuilding the two piers in brick-faced concrete on concrete foundations keyed into the rock bed of the river. The other damaged parts were reconstructed in brick, with concrete bearing courses, and the foundations of one pier were protected with a concrete apron carried up to 3 ft. above water level. The new spans each consist of four rolled-steel joists with concrete-filled steel-sheet piling decking welded to them; the ends of the beams were welded together to form a four-span continuous superstructure. Vehicles in the mills, which had been isolated by the broken bridge, were lifted 30 ft. by means of a crane on to the Berwickshire branch line where it crosses over the mills siding.

## The Summer Train Services

THE summer services will operate this year from June 5 until September 24. Although some of the regional timetables have not been distributed yet, it is expected, however, that they will all be out much sooner than they were last year.

The weekly passenger train mileage will be 4,324,000, as against 4,284,000 last year. The total mileage this summer will not show as great an increase on last year as was the case with previous summers, no doubt because of Government policy in the restriction of capital investment and a wide range of expenditure. Nevertheless, withdrawal of lightly-loaded trains will allow of the provision of an almost equivalent number of extra services, particularly main line and cross-country, totalling 328, of which 78 will be on Saturdays only and 20 on Sundays only. There will be more weekend trains, particularly Friday night and Saturday services. Many of the cross-country services which operated last summer will be re-introduced, and there will be entirely new services, such as Newcastle-Lowestoft and Clacton-Mansfield.

The following table shows the weekly train mileage for the five summers since the war, compared with that for the year 1939:—

| Year | Weekly train mileage | Percentage of 1939 total |
|---|---|---|
| 1950 | 4,324,000 (estimated) | 81·4 |
| 1949 | 4,284,000 | 80·6 |
| 1948 | 4,025,000 | 75·7 |
| 1947 | 3,757,000 | 70·7 |
| 1946 | 4,056,000 | 76·3 |
| 1939 | 5,313,000 | |

The figure for this year is an estimate, while those for previous years are actual totals and in most instances showed a slight decrease on the mileage which had been estimated for the summer period.

The practice of main-line trains calling at suburban and outer-suburban stations is to be extended and will cover all Regions. Compartments will be available for passengers joining at local stations, but it has been found impracticable to provide reserved seats for them. Further standardisation of departure times is being effected. Faster running and shorter station stops will enable accelerations of from 10 to 67 minutes on last summer's services to be made, but permanent-way slacks preclude anything like a return to pre-war schedules. The restoration of the track to its pre-war standard is being pressed ahead, as far as economic conditions permit, and 3,980 miles have been renewed in two years; this year the programme includes a further 1,800 miles. Sir Eustace Missenden, Chairman of the Railway Executive, predicts that within three years high-speed running may be restored on the main lines. Some services are being re-timed or re-routed, in response to public request.

Four more named trains will make their appearance. The "Easterling" and the "Broadsman" will run from Liverpool Street to Yarmouth, and to Cromer and Sheringham respectively. South Wales is to have a named train, the "Red Dragon," from Paddington to Carmarthen; this is a happy choice of name, as not only is it part of the Welsh flag, but it figured in the coats-of-arms of some of the old Welsh railway companies. The "Tynesider" (Kings Cross to Newcastle) completes the new named trains, but all the named trains which ran last summer will be re-introduced.

There are to be four more cross-Channel services. The popular runabout tickets will cover 77 areas, compared with 52 last year. Each Saturday from June 10 to September 9 two restaurant-car trains will set out on a week's tour of Scotland. This will be somewhat on the lines of the pre-war "Northern Belle" cruise, except that tourists will be accommodated in hotels and not in the train.

The total of passenger coaches is 1,075 more than last year, but the shortage is still acute; the maximum of new coaches which it will be possible to build this year will be 2,386, because of restrictions on capital expenditure. Each week there will be 393 sleeping car services, as was the case last year, but including 94 more cars. It is hoped that 32 more sleeping cars will be ready for service this year.

## In Praise of Steam

NEARLY one hundred years ago Mr. G. Royde Smith in his "History of Bradshaw" wrote of the locomotive: "I love to see one of these huge creatures, with sinews of brass and muscles of iron, strut forth from its smoky stable, and saluting the long train of cars with a dozen sonorous puffs from his iron nostrils, fall gently back into his harness. There he stands, champing and foaming upon the iron track; his great heart a furnace of glowing coals; his lymphatic blood is boiling in his veins; the strength of a thousand horses is nerving his sinews . . ." Since that early eulogy, scores of railway authors have been moved to ecstasy by the iron horse and not a few have attempted to search out that elusive property of the steam locomotive which has been their inspiration.

A recent endeavour to establish the qualities of this steam muse has been made by Mr. George Dow, Public Relations & Publicity Officer, London Midland Region, in a book "British Steam Horses."* Here the fundamental appeal of the locomotive is attributed to the fact that it approximates more closely to the human being than any other mechanism devised by man; no two engines, Mr. Dow says, be they similar in every constructional detail, will ever behave exactly alike. This factor the author links with the sense of speed conveyed by the steam locomotive in motion and the impression of power controllable at a touch; further mention is made of the beauty of outline, attractive livery and excellent finish of the British locomotive.

In all probability though, it is in the personal link between the onlooker and a machine of striking power, man-made and humanly capricious, that the appeal lies and it is not surprising that the atmosphere of latent power

* "British Steam Horses," by George Dow. London: Phœnix House Limited, 38, William IV Street, Charing Cross. 128 pp. Illustrated. Linen covers. Price 12s. 6d.

which surrounds the locomotive has thereby proved stimulating to those of artistic temperament, so often numbered among its followers.

This alliance of man and machine as Mr. A. H. Peppercorn, formely Chief Mechanical Engineer, Eastern & North Eastern Regions, points out in a foreword, is the main theme of Mr. Dow's book. It is a comprehensive work dealing with many aspects of locomotive design and operation, from a description of component parts and the story of its evolution, to some accounts of its outstanding achievements.

The author does not pretend to cater for the technician, but has written principally for young persons who, having tired somewhat of engine spotting, are wanting to acquire a wider knowledge of the steam locomotive in all its aspects. In this he is not undertaking a new task for there have been many such books. Mr. Dow, however, by reason of a full measure of enthusiasm for his subject and an understanding of his audience, has provided a knowledgeable and authoritative book enhanced by a most readable style.

## Indian Railways in 1948-49

THE year ended March 31, 1949, for which the Annual Report of the Government of India Railway Board has been issued, was the first complete fiscal period of Indian railway working in the Dominion of India since Partition. It was marked by continued heavy traffic, increased earnings, and improvement in transport shortages. The operating ratio of the Government Railways fell from 91·40 to 78·98 per cent., due largely to the success of a sustained efficiency drive making possible the handling of additional traffic, and evident *inter alia* from improved wagon loadings. Excluding figures for the Eastern Punjab and Assam Railways (so as to provide a fair comparison with previous years) the passenger and goods earnings of all Indian railways increased during 1948-49 by 19·8 and 28·5 per cent. respectively. Rate and fare alterations contributed much to increases.

Financial results for the year expressed in crores of rupees (Rs. 1 crore = Rs. 100 lakhs = £750,000) were as follow:—Gross traffic receipts on the Government Railways totalled 213·10 and receipts from miscellaneous transactions added 2·56. Working expenses were 160·41, and appropriations to the depreciation fund 11·29, and payments to worked lines as their shares of net earnings were 1·62, leaving a net revenue of 42.34.

Interest charges amounted to Rs. 22·36 crores, so that after meeting all these charges, the surplus on the results of working was 19·98. Of this sum 11·80 were credited as an additional contribution to the depreciation fund and 7·34 to general revenues; the balance of 0·84 was paid over to the railway betterment fund.

The principal traffic figures for all lines except the Eastern Punjab and Assam Railways and the narrow-gauge section of the East Indian Railway are given below:—

| | 1947-48 | 1948-49 | Percentage variation |
|---|---|---|---|
| Passengers carried (millions) ... ... | 1,017·1 | 1,094·2 | + 7·6 |
| Passenger-miles (millions) ... ... ... | 32,575·2 | 35,477·2 | + 8·9 |
| Passenger-earnings (crores of rupees) ... | 70·40 | 84·34 | +19·8 |
| Average miles a passenger was carried ... | 32·0 | 32·4 | + 1·3 |
| Freight tons conveyed (millions) ... ... | 71·7 | 77·9 | + 8·6 |
| Net ton-miles (millions) ... ... ... | 20,111 | 21,823 | + 8·5 |
| Goods earnings (crores of rupees) ... | 82·49 | 105·99 | +28·5 |
| Average miles a ton of goods was carried... | 281 | 280 | − 0·4 |

This improvement in passenger traffics, however, gives little idea of the increases that had taken place since 1938. The number of passengers carried by Class I railways had risen from 398 millions in 1938-39 to 1,064 millions in the year under review, or by 167 per cent. The corresponding increase in the volume of goods traffic was only 21 per cent. India being almost entirely an agricultural country, it is remarkable that 44 per cent. of the goods conveyed in 1948-49 was coal.

Passenger services during the year were increased and punctuality improved appreciably. The net ton-mileage per wagon-day rose by 6·3 per cent. on broad-gauge and by 10·5 per cent. on the metre-gauge systems compared with the previous year.

The number of locomotives in daily use rose by 4 and 5 per cent. respectively, but the numbers under or awaiting repairs in shops remained at about 20 per cent.

Most lines suffered from abnormal rainfall, floods, or cyclones. No new construction was sanctioned, but eight new sections with an aggregate length of 158 miles were opened for public traffic; none was over 35 miles long. Nine other lines totalling 532 miles were under construction during the year, the longest being the Assam Rail Link, 145 miles. Surveys for five additional new lines, totalling 500 miles, were sanctioned.

The intermediate class of passenger accommodation was abolished. In goods traffic operation, the practice of running special trains from certain centres to selected destinations was extended to include smalls and non-priority goods.

Locomotives and rolling stock placed in service and ordered from sources other than railway workshops were as follow:—

| | Placed in service | | Orders placed for | |
|---|---|---|---|---|
| | Broad gauge | Metre gauge | Broad gauge | Metre gauge |
| Locomotives ... ... ... | 71 | 33 | 400 | 170 |
| Coaching vehicles ... ... | 233 | 173 | Nil | Nil |
| Goods vehicles ... ... | 2,629 | Nil | 3,400 | Nil |

Goods vehicles are in terms of four-wheel units. The Tata Locomotive & Engineering Company completed 52 locomotive boilers during the year. Railways were advised to scrap uneconomical locomotives as soon as they could be replaced, not only to relieve workshops from repairs and release repair capacity for newer engines, but also to build up stocks of spares from scrapped engines.

With a view to standardising a trough-type sleeper for use on bridges, two were designed, one consisting of continuous troughing and the other "isolated" in comparatively short detached lengths. Each type was tested on a different span by derailment of loaded wagons. Owing to its being lighter and more easily removed and repaired than the continuous trough, the isolated type was selected. A pre-stressed 40-ft. concrete bridge span was being constructed for testing purposes and eventual standardisation, and to ascertain the factor of safety and strength of such a span under overloading. Soil mechanics research was also actively pursued.

Dynamometer car trials were carried out on the East Indian Railway with "XE" 2-8-2-type locomotives to determine the effect of two types of mechanical stoker on rates of firing, combustion efficiency, boiler output, and overall boiler efficiency; they were the standard "HT" and the Berkeley "B" types. Trials were also conducted with three types of injector: the Gresham & Craven "RCWL," the Nathan, and an improved type of standard Simplex injector.

Oscillation trials were carried out on "AWD" and "CWD" locomotives to study flange-forces at high speeds and the effect of various degrees of lateral control of the trailing truck on stability; 45 m.p.h. was fixed as the maximum permissible speed for these engines. Other trials with "WM" locomotives proved that flange forces did not exceed 41 per cent. of the axle loading, and steady running was experienced at speeds up to 65 m.p.h. Oscillograph car trials with "WP" broad-gauge Pacific locomotives showed excessive vertical oscillation at the rear end. Accordingly the inter-drawgear was re-designed.

The different Standards Committees dealt with many matters. Civil engineering subjects included the designs of aluminium decking for combined rail-and-road bridges and of aluminium alloy structures generally; pre-stressed concrete sleepers: mechanical track appliances; and multiple-aspect and double-wire signalling equipment.

On the mechanical side recommendations were made regarding a superheater with superheat and saturated compartments in separate units (eventually discarded in favour of the "AM" type); designs for future standard "YP" 4-6-2 and "YG" 2-8-2 metre-gauge locomotives (a pilot order was placed in North America for 20 "YP" and 150 "YG" engines); departures from I.R.S. practice in the fulfilment of bulk orders for standard broad- and metre-gauge locomotives; flaws in materials and welds; designs for all-steel light-weight coaches; the use of aluminium in carriage and wagon construction; and thermal insulation of steel coaches, air-conditioning, and refrigeration.

# Diesel Working of Fast Freight Trains

RELATIVELY short railway distances in Great Britain present a problem in diagramming main-line diesel locomotives so that maximum advantage may be taken of their high availability. Though the London Midland Region locomotives 10000 and 10001 already have headed a number of well-known trains, both singly and as twin units, one much more unusual duty, and one out of the public eye, has been the operation by No. 10000 of one of the fastest British Railways freight trains, namely, the 2.55 p.m. from Camden to Crewe, thence to Glasgow, six days a week. Timing calls for speeds little short of express passenger scheduling.

Maximum booked speed is 53 m.p.h., and as the train is due to pass Basford Hall Junction at 6.23 p.m. with loads up to 45 vehicles, it will be seen that operation is no easy matter. An important aspect is that the locomotive was designed originally for a maximum operating speed of 90 m.p.h. and the traction motor gear ratio was arranged accordingly. The maximum load permitted on the down journey is 45 vehicles. For all practical purposes, 45 vehicles are equivalent to a trailing load of approximately 515 tons, and to take this up to Tring, with one 1,650-h.p. diesel-electric unit, in the 51 min. allowed, leaves no opportunities for easy running. Table I shows the official schedule for the down journey and the actual times.

TABLE I—OFFICIAL SCHEDULE OF 2.55 P.M. FAST FREIGHT, CAMDEN-CREWE

| Miles | | Schedule | Actual | Actual speed based on mileage |
|---|---|---|---|---|
| | | p.m. | p.m. | |
| 0 | Camden ... ... dep. | 2.55 | 2.50 | |
| | | | | 17·5 |
| 1¼ | Kilburn High Road... pass | 3.01 | 2.56 | |
| | | | | 18·8 |
| 4¼ | Willesden Junction... ,, | 3.08 | 3.04 | |
| | | | | 43·6 |
| 16¼ | Watford Junction ... ,, | 3.26 | 3.20½ | |
| | | | | 43·8 |
| 30½ | Tring ... ... ,, | 3.44 | 3.40 | |
| | | | | 52·5 |
| 45½ | Bletchley ... ... ,, | 4.01 | — | |
| | | | | 45·0 |
| 58½ | Roade ... ... ,, | 4.17 | 4.12 | |
| | | | | 52·5 |
| 61½ | Blisworth ... ... ,, | 4.21 | 4·16 | |
| | | | | 45·0 |
| 79 | Hillmorton ... ... ,, | 4.43 | 4.36 | |
| | | | | 42·8 |
| 81½ | Rugby ... ... ,, | 4.46 | 4.39 | |
| | | | | 48·8 |
| 95¼ | Nuneaton ... ... ,, | 5.05 | 4.59 | |
| | | | | 46·9 |
| 108¼ | Tamworth ... ... ,, | 5.20 | 5.15 | |
| | | | | 50·5 |
| 115 | Lichfield ... ... ,, | 5.28 | 5.23 | |
| | | | | 46·6 |
| 123 | Rugeley ... ... ,, | 5·38 | 5.32½ | |
| | | | | 40·0 |
| 128½ | Milford ... ... ,, | 5.45 | 5.39¼ | |
| | | | | 40·6 |
| 132¼ | Stafford ... ... ,, | 5.50 | 5.45½ | |
| | | | | 42·0 |
| 137½ | Norton Bridge ... ,, | 5.59 | 5.53 | |
| | | | | 48·8 |
| 146¼ | Whitmore ... ... ,, | 6.12 | 6.05½ | |
| | | | | 9·5 |
| 155 | Basford Hall Junction ,, | 6.23 | 6.16¼ | |
| 155¾ | Basford Hall North... arr. | 6.28 | 6.21 | |
| | Mean speed (Official) | 43·8 m.p.h. | | |
| | ,, ,, (Actual) | 44·3 ,, | | |

On this journey, which will be described in greater detail by a contributor in the May issue of our associated journal, *Diesel Railway Traction*, the load was 37 vehicles, this being equivalent to approximately 430 tons. The weather was indifferent, with intermittent rain squalls, and a moderate side wind. When Willesden was cleared acceleration on the 1½ miles of level was rapid. On the next 7½ miles of rising 1 in 339 the speed was maintained at 42-43 m.p.h. with main ammeter showing 1,500-1,800 amp. We understand that the motor group ammeters indicated a perfect current distribution. At starting from Camden, with the train on a sharp curve, and with peaks of 2,500 amp. on the main ammeter, not the slightest sign of slip tendency was observed. Beyond Tring, power was eased, with speed increasing to a maximum of 60 m.p.h. at the bottom of the six miles of 1 in 333 beyond Cheddington; this was the highest speed reached on the run. A noticeable feature was the braking. The whole distance from Camden to Crewe was completed without a stop. Nowhere, except the stop at the end of the run, was the train pipe vacuum reduced by more than 3 to 4 in.

The fuel consumed was 172·3 gal., or 1·1 gal. per mile The fuel per ton-mile is then 0·0025 gal., or an expenditure of approximately 400 B.T.U. Next day, the down journey comprised 44 vehicles, the fuel consumption being 173·5 gal., or an expenditure of 360 B.T.U. per ton-mile. These figures apply to the train only. In the last case mentioned, if allowance is made for the locomotive, the B.T.U. per ton-mile comes down to approximately 290. A matter of minutes before the unit was due off the shed at Willesden the engine was started. A few minutes after reaching Crewe, the engine was stopped, the radiator shutters closed, lights switched off, and the cab doors locked. Table II shows a section of the data applying to actual operation on the fast freight work described.

TABLE II OPERATING DATA

| | Journey No. 1 | Journey No. 2 |
|---|---|---|
| From | Camden | Crewe B.H.S. |
| To | Crewe | Willesden |
| Depart | 2.50 p.m. | 5.00 a.m. |
| Arrive | 6.20 p.m. | 10.45 a.m. |
| No. of vehicles | 39 | 26 |
| Shed fuel (gal.)<br>Shed revs. | 9·9<br>35,200 | 6<br>24,500 |
| Shed miles | 8·0 | 3 |
| Time in service | 3 hrs. 30 min. | 5 hrs. 45 min. |
| Shed and light running time | 1 hr. 20 min. | 50 min. |
| Fuel (gal.) | 179 | 134·5 |
| Distance (miles) | 156 | 152 |
| Engine revs. | 145,200 | 190,000 |

| Totals | Service hr. min. | Service and shed hr. min. | Fuel | Mileage | Revs. |
|---|---|---|---|---|---|
| O F | 3,826·03 | 3,954·08 | 123,614·8 | 136,119·9 | 129,555,300 |
| Service | 9·15 | 9·15 | 313·5 | 308·0 | 335,200 |
| Shed | | 2·10 | 15·0 | 11·0 | 59,700 |
| Grand | 3,835·18 | 3,965·33 | 123,943·3 | 136,438·9 | 129,950,200 |

The running is segregated into sections "Service" and "Shed," which is useful in analysis. With the exact measuring of fuel and lubricating oil, mileage run, with the registration of the revolutions made by the diesel engine, and the precise hours of running, the L.M.R. has extremely accurate measure and record of what is being done.

From Table II it will be seen that, for the down trip, the miles, engine revolutions, fuel, and time booked against "Shed" are considerably higher than the figures for the up journey. This is explained by the fact that the locomotive is based on Willesden shed and has to cross over to the up tracks north of Willesden and then proceed to Camden. The up journey of this turn is on normal express freight timing with possible interruptions of direct passage. The permitted load is higher and 55 vehicles are not uncommon. This means higher fuel consumptions and total engine revolutions, and these aspects of the working show up in the appropriate columns of the record sheets.

A close study of this operational data should give a lead to potential economies in various directions. With the locomotives rostered on similar duties for an extended period, abnormality in the records shows up readily; for example, the fuel consumed, which is measured continuously through fuel meters in the supply pipes to the engine fuel pumps and is accurate to close limits. The operational records show a remarkable consistency.

# LETTERS TO THE EDITOR

*(The Editor is not responsible for the opinions of correspondents)*

## Crewe Colours

April 5

SIR,—With reference to Mr. Bardsley's letter in your issue of March 24 on the non-painting in standard British Railways colours of former L.N.W.R. passenger tanks, can one detect after all this lapse of time a trace still existing at Crewe of the old North Western Company's autocratic snobbery, for want of a better term? The attitude seems to savour of "other former railways' engines are now being painted in our old colours, so we will keep our own plain black!" Crewe has always had to be different; after the amalgamation it was very resentful at the indignity of having to paint its engines Midland red, and apart from the Claughtons, few were actually done. For several years it continued to turn engines out of the works in black, and even still with the old L.N.W.R. numbers, the renumbering scheme being another thing it did not take kindly to. Again, today, former L.N.W.R. engines are the only locomotives in the country not being fitted with standard smokebox door number plates, so far as I can ascertain not one having been so treated.

Yours faithfully,

H. C. CASSERLEY

Ravensbourne, Berkhamsted

## Railway Fares

April 6

SIR,—In support of his continued advocacy of a general reduction in third class ordinary passenger fares to 1d. a mile single and 1½d. a mile return—which he incorrectly states to be "motorcoach levels"—Mr. E. R. B. Roberts in your March 31 issue states: "The railways—both before and since the war—have admitted that in every case where they have reduced rates and fares they have recovered the traffics from the roads and increased their receipts."

This, like so many of Mr. Roberts's statements, is incorrect, as notwithstanding his assertions to the contrary, which I have previously contradicted, there have been no *general* reductions in rates or fares since 1928. That being so, there can obviously have been no such "admission" by the railways; also, how can Mr. Roberts reconcile his statement with the fact that when the railways required additional revenue—in 1937 to enable them to approach more nearly to their "standard revenue" and in 1946 to meet rising costs—they applied to the Railway Rates Tribunal for authority to *increase* their rates and fares? It doesn't make sense. If Mr. Roberts would take the trouble to confirm the accuracy of his statements before rushing into print, he would stand more chance of being taken seriously.

In my letter in your March 10 issue, I agreed that the Sunderland branch results might possibly be repeated *on similar branch lines* if similar fare reductions were made; my reason for asserting that it would be manifestly absurd to assume that they would be repeated throughout the country generally is simply commonsense. Where the greater part of a flow of competitive traffic is being conveyed by road transport because of its fares being lower than by rail, as with the Sunderland branch, an increase in rail carryings of several hundred per cent. is quite feasible provided the rail fares are reduced to or below the road level and a good train service is provided—this latter is very important—but where rail is carrying the greater part of the traffic, as with medium- and long-distance traffic throughout the country generally, a reduction of the rail fares to road level could not possibly attract sufficient passengers to rail from road to compensate for the loss caused by the fare reduction.

Mr. Roberts states it is not the business of railwaymen to study the interest of their rivals (road transport) but to beat them in services and prices. Whoever heard such nonsense! Does he not know that one of the objects of the Transport Act is the proper integration of rail and road traffic and that one of the most important steps in such integration is the levelling of the fares where similar services are provided? A step in this direction has been made in the London Area Passenger charges scheme, but this is only an interim measure and only deals with certain sections of the fares on the Railway Executive lines in the area. Also, has he not read that of the £205,000,000 earned annually by public road passenger services throughout the country, no less than £110,000,000 is earned by road companies wholly or partially owned by the B.T.C., this latter figure including the bulk of the "competitive traffic"?

I note Mr. Roberts has again conveniently ignored the two challenges made to him in my letter in your March 10 issue.

Yours faithfully,

J. H. LAUNDY

Rustington, Sussex

## What are the Spayson Railways?

March 27

SIR,—In Major-General Sir F. J. Goldsmid's well-known book "James Outram: A Biography," of which the second edition was published as long ago as 1881, there was a cryptic footnote in the following terms:—"See notes by George Stephenson, in reference to the 'Spayson Railways,' Smiles's 'Life of George Stephenson,' p. 59." It is well known that there are many editions of Smiles's work, and that these differ substantially in many respects, as Smiles learned a great deal after the publication of his original work, and modified his text accordingly, by eliminating errors of which he was convinced, and adding new material.

Howbeit, I have never succeeded in tracing any edition in which there is any reference to these mysterious Spayson Railways. Through the courtesy of the Secretary of the Institution of Civil Engineers, I was able to consult the copies available in the library of that Institution, including the first edition, but none reveals the answer to this query.

Could any of your readers say what were the Spayson Railways; which edition of Smiles made the reference; and where can the text of this reference be consulted?

Yours faithfully,

CHARLES E. LEE

London, S.W.1

## Canadian Railways Amalgamation

April 15

SIR,—In your issue of April 14 you have reported that a Canadian senator has suggested that the Canadian Pacific Railway and the Canadian National Railways should be amalgamated into a single Government-operated line and that such a change would cut costs, eliminate duplication and waste, help producers in domestic and foreign markets, and that the estimated saving would be $75,000,000.

Such proposals have been made in the past but have come to naught, a most fortunate circumstance for the Canadian people, in my opinion. On the face of it such a proposal is logical, but personal acquaintance with Canada leads me to believe that such savings would not be effected, in fact I feel that Canada would pay dearly for such an amalgamation.

There is an intense rivalry between the two railways in both passenger and freight traffic and I have met many persons who will go out of their way to travel on, or send freight by, their preferred railway. In many parts of the country the two systems serve the same districts and in

these there is great competition for traffic and, consequently, efficient service by both systems. In districts where one line has the monopoly I would say that the service is not so efficient. In other words, amalgamation would abolish competition, reduce efficiency, and increase the cost of service. Many thinking Canadians recognise these facts and will do their utmost to prevent the amalgamation of the two railways, realising that the abolition of the C.P.R. would make the C.N.R. the plaything of the Government and would be the end of service to the public.

Yours faithfully,
G. RICHARD PARKES

90, Serpentine Road, Wallasey

## Railway Efficiency

April 15

SIR,—It is but a few weeks since Mr. R. Bell was informing us that in America average net ton-miles per train engine hour had reached a figure of 19,153 and was expected shortly to reach 20,000. In your issue of April 14, he appears to regard 1,073 in this country as a high-water mark in the tide of efficiency, simply because it was better than a year which was worse.

The American figure shows what is within the capacity of the locomotive running on rails, and that efficiency level is about 1,850 per cent. higher than the highest British achievement. An improvement of 11 per cent. in relation to and towards such an efficiency level can only give rise to lyrical gratification because our standards are so pitifully low, and the American achievement shows that my own persistent pressure for operating reforms which will enable us to reach 15,000 net ton-miles per train engine hour is not unreasonable. Moreover, it proves that the failure to attain this figure is not due to inability of the locomotive to do so, but to some other cause. That cause undoubtedly is failure to manipulate the freight in such a way as to shape the traffic into appropriate loads for locomotive haulage. This means the replacement of feeder and pick-up services now performed so wastefully by railway, by road services.

Mr. R. Bell is right when he says that the statistics of net ton-miles per shunting and per total engine hour do not represent units of actual, presumably meaning effective, work done; they certainly do not. They represent work done, which is largely unnecessary, to make it possible to attain even the low figure of 1,117 net ton miles per train engine hour.

Yours faithfully,
FREDERICK SMITH

65, Hallowell Road, Northwood

## Electro-Pneumatic Brakes

April 15

SIR,—Having read with interest Mr. Broadbent's paper on electro-pneumatic brakes, read at the Institution of Electrical Engineers' Convention on Electric Traction in March, and in particular that section which deals with the so-called "Retardation Control," there is one small query which arises in one's mind. A mercury switch is used to control the application valves, and to operate and release a blow-down valve, so reducing the pressure in the brake cylinders if the rate of braking rises above a pre-determined valve. The positions of the contacts in the mercury switch are obviously extremely critical, and, in fact, figures of 7 deg. and 8½ deg. are quoted as being the circular angles between the contact that is permanently submerged and the others relating to the operation of the application and blow-down valves respectively. The latter contacts are reached by the mercury in its forward surge.

Gradients of 1 in 40 and 45 are known to occur in the London Underground system where the lines come to the surface, and this will give an initial inclination to the switch of about 1½ deg. The steepest gradient occurring is 1 in 25, which gives an almost 3 deg. inclination. This would appear to be undesirable in that braking when descending these gradients may be reduced by premature operation of the blow-down valves. The angle of movement of the mercury permissible before the contact controlling the blow-down valve is reached is reduced to 7 deg. on the 1 in 40 downgrade, which, using Mr. Broadbent's expression $\tan \phi = f/g$ (where $f$ is the rate of braking in ft. per sec.$^2$), corresponds to a deceleration of 2·7 m.p.h./sec. instead of the 3·3 m.p.h./sec. on the level. On the 1 in 25 downgrade it may be reduced to 2·1 m.p.h./sec., and the feed to the application valves will be interrupted at 1·5 m.p.h./sec.

Obviously the converse will apply when braking on the ascending gradients, and here the retardation can presumably reach a figure of about 3·9 m.p.h./sec. before the pressure in the brake cylinders is reduced by operation of the blow-down valves, this occurring on a gradient of 1 in 40.

Yours faithfully,
A. G. FOWLER

174, Walsingham Gardens, Ewell

[Mr. Broadbent's paper was summarised in our issue of April 21.—ED. *R.G.*]

## Timekeeping with 1914 Locomotives

April 18

SIR,—I was particularly interested in the paragraph under the above heading on page 354 of your issue of March 31.

The "12D" class locos. were put on rail between 1914-17 and had features characteristic of the early days of superheating—large cylinders 22 in. × 26 in. and low boiler pressure (160 lb. per sq. in.). As running today, they are much altered, and this fact might have been mentioned.

In the course of the modernisation of the locomotive power of the then Buenos Ayres Great Southern Railway, undertaken during my term as Chief Mechanical Engineer, these engines came in for considerable attention, as they fell due for general repairs between 1934 and 1939. Boiler pressure was increased to 200 lb. per sq. in.; cylinders were reduced to 19 in. dia.; Walschaerts valve gear was modified to give a long valve travel, and valve heads altered appropriately. Counterbalancing was improved, and grease lubrication was applied to rods and motion.

Although on formula the maximum tractive force was reduced in practice, performance and efficiency were vastly superior, and it is satisfactory to know that these old stalwarts are still capable of deputising so well for their more modern sisters.

Yours faithfully,
J. W. H. REA

81, Montpellier Terrace, Cheltenham

## Preserving Branch Lines

April 5

SIR,—The widespread closing of country branch lines proceeding at the present time will undoubtedly eliminate many lines greatly appreciated by lovers of scenery and quaintness in railways. It is difficult to cavil with the general principle because economics leave little scope for sentiment. If an agreed selection of lines of exceptional merit were removed from the threat of closure the Railway Executive would deserve the gratitude and support of enthusiasts, tourists, antiquarians, artists, and so on.

No doubt many people know such lines that they regard with special pleasure, but my short list would be as follows:—(1) The former Kent & East Sussex Railway; (2) Vale of Rheidol narrow gauge; (3) Grassington branch in Yorkshire; (4) Nidd Valley branch, near Harrogate; (5) Blaenau Festiniog branch from Llandudno Junction; (6) North East Coast line between Whitby and Staithes; and (7) North Sunderland Railway.

Full appreciation of such lines would involve the retention of the existing or similar steam power and maximum encouragement of the station garden competitions. With regard to the latter I have often thought it would be a good plan to allow the travelling public to judge the station gardens, possibly through the medium of an excursion train. It is a pity that such lines as the Festiniog, Manifold Valley, and Lynton & Barnstaple are no longer in being to form the nucleus for a scheme as outlined above.

Yours faithfully,
WILLIAM B. STOCKS

22, Heatherfield Road, Marsh, Huddersfield

# THE SCRAP HEAP

### Devon General Record

During the last year the Devon General Omnibus & Touring Co. Ltd. operated 10,250,000 miles and carried nearly 60 million passengers, both records for the company.

### A Rail Trip in Uruguay

During the month of February, and in the middle of one of the worst droughts experienced either in Argentina or Uruguay, the writer made a trip by rail from Montevideo to Minas, an interesting trip of three hours on the Central Uruguay Railway.

Traffic, once fairly heavy, has dwindled down to a short train of one van, one first class, one second class coach, and a four-wheel van for *encomiendas*. Two trains a day are run, one leaving Montevideo in the morning at 7.25 and arriving at Minas at 10.25 and one leaving the capital at 17.30 and arriving at 20.30. There is a corresponding service from Minas to Montevideo. There is also a conditional cargo service doing the round trip in the day.

The service is worked by the class "N" mixed-traffic engines built by Beyer, Peacock & Co. Ltd., Gorton Foundry, Manchester, in 1907, and except for a certain amount of modernisation are substantially the same as when they left the works 43 years ago; they play with a train of 14 axles.—*From an article in "The Review of the River Plate."*

### The Swo-o-sh Express

World's fastest chimney-sweeping service is now being operated by British Railways—the 117-ton, 90 m.p.h. turbo-jet locomotive now doing test runs from Swindon into the Western Region.

Staffs at small stations have discovered that if they leave the station office door open the draught of the train passing through brings down the soot.—*From the "Daily Mail."*

### "One Old Engine Chimney"

*Received of Mr. Henry Maxwell, for one old engine chimney, and carriage on same to Wadebridge Station*—£1 2*s.* 6*d.* So ran the invoice from the Mechanical Engineer's Office, Eastleigh, Hants. One old engine chimney! Was it possible that anyone could so refer to what had once adorned Dugald Drummond's masterpiece?

How well I remember the first time I saw this particular locomotive. The first world war was not yet over, and I found myself, as a schoolboy at Queen Street, as the South Western station at Exeter was then called, hoping, when the 10.50 from Waterloo should arrive, to feast my eyes upon an express engine of satisfying proportions.

I was tense with expectancy, but I had no idea of what I should see. I had not the least premonition that what I was about to experience would be one of the greatest thrills of my life. But the moment I caught sight of that great engine advancing swiftly towards me with the sunlight gleaming on its mighty boiler, its scarlet buffer-beam, all the glory of the matchless London & South Western shade of green, my heart stood still. It was not only that I had never before seen such an engine. I had not any conception that such an engine could be. It took my breath away. I felt intoxicated. It seemed to me the sort of engine which might draw the corridor expresses of heaven! So great was the height of the locomotive off the rails, so immense and imposing the boiler—the largest then in use in Great Britain—with the massive upswept saddle on which it rested, that its chimney looked a mere excrescence, a lightly turned, airily seated coronet crowning the never-to-be-forgotten form. Time passed .... It was in the middle of the great air raid of May 15, 1941, that my resolution was formed. I would write to the Chief Mechanical Engineer of the Southern Railway and ask if, when the time came for dismantling should arrive, I might purchase the chimney that I had first seen all those years before at Exeter.

To my surprise the answer was in the affirmative. Doubly in the affirmative, for not only could I purchase the chimney but I could purchase it there and then. Where to send it to? Not to war-torn London, where it might be rescued from the scrap-heap only to be lost in the rubble-dump. I had some friends in Cornwall. To them I wrote begging asylum for my treasure, and from them I heard extending welcome. The chimney, I had told them, was tiny—a mere knob on a great boiler, an elegant trifle which could be placed on one side in a room or cupboard. In due course I heard that it had arrived—and that it had taken four men to lift it! Drummond's engines were massive affairs, as time has proved, but this was cerainly a surprise.

And there for the moment it remains. But recently after much wandering I have a house and a garden again, and shortly, I hope, the chimney may make yet one further journey along the line which is so familiar to it and beneath the bridges under which it was wont to flash to be installed upon a small column in my garden and there filled with flowers. Where was once all steam and smoke may soon be scent and blossom, and old Dugald's dour and doughty memory may perhaps be assuaged by this tardy tribute of affection. One old engine chimney, indeed.—*Abstracted from an article in "I.C.I. Magazine."*

*[Reproduced by permission of the proprietors of "Punch"*

### Button-Hole Tickets

A button-hole ticket for armless travellers to cover a year's journeys by tube or bus has been introduced by London Transport to overcome the difficulty of finding money for fares.

### Tater Pie Hankies

Before canteens came into being the favourite receptacle for the midday dinner was a basin enfolded in a red and white spotted handkerchief.

"Tater pie hankies" was the Lancashire term for them, and the other day I saw the first "tater pie hanky" I had seen for years. It was protruding from the driver's pocket on the new British Railways poster "Clear Road Ahead," which realistically depicts a driver and fireman at work on the footplate.

Possibly, the driver was carrying the handkerchief for use as an emergency danger signal, even as porters and shunters on the old L.B. & S.C.—or was it the L. & S.W.?—were issued with red neckties for that purpose. The more likely explanation, however, was supplied by an engine-driver admiring the poster with me: "Danger signal, my foot!" he snorted. "That's a sweat rag, that's what that is.—*From "The Manchester Guardian."*

# OVERSEAS RAILWAY AFFAIRS

*(From our correspondents)*

## SOUTH AFRICA

### Working Results

During December, 1949, the operation of the railways and subsidiary services resulted in a surplus of £230,790. Revenue amounted to £7,787,156 and expenditure to £7,556,366. The railway services reflected a surplus of £18,369 for this month and the harbours £61,232. The working of the aerodromes also resulted in a small surplus. Losses were incurred in the working of airways and the S.A.R. steamships.

The catering department reported satisfactory results from the economy campaign in December. The net result of operating the catering services in this month was a surplus of £13,488 as compared with a loss of £3,726 in the same month of 1948.

### Traffic Features

The total quantity of manganese ore conveyed by rail in 1949 was 782,812 tons as against 365,422 tons in 1948. Chrome ore transport increased from 339,105 in 1948 to 388,942 tons last year, and cement moved by rail from 1,057,314 tons to 1,128,155 tons. Traffic moved southwards from Witbank continues to improve, and in the week ended January 1, 407,887 tons gross were handled. The previous record was 403,772 tons. Cattle trucks were in great demand during January and February and the difficulty of giving loaders adequate supplies was accentuated by drought conditions in different parts of the country, especially in the area between Hutchinson and Carnarvon, the district of Prieska, and in the Eastern Cape.

During January and February, 1950, the South African Railways added 860 bogie wagons to their rolling stock establishment, five steam locomotives, and ten first and 14 third class passenger coaches. Scrapping reduced these figures by one steam locomotive, three passenger coaches and 154 goods wagons.

Ten of the Class "S-1" shunting engines which are being built at Cape Town by the Salt River workshops, are now in service and two more in course of erection. These locomotives are giving excellent service. One hundred and sixty-five special passenger trains were operated in December last.

## CEYLON

### Rates Revision

Rates on parcels and goods, which are 50 per cent. above the pre-war level, are being revised. It is expected that a new goods classification and revised freight rates will be brought into force by May. The modifications contemplated in the rules and rates governing goods traffic are intended to attract more custom without loss of revenue. Considerable reductions on some classes of goods and the grant of concessions to rail users to encourage more traffic are the features of the tariff revisions now being prepared.

First and second class passenger fares were last revised in February, 1948, and third class in June, 1949, and further increases are not expected in the near future.

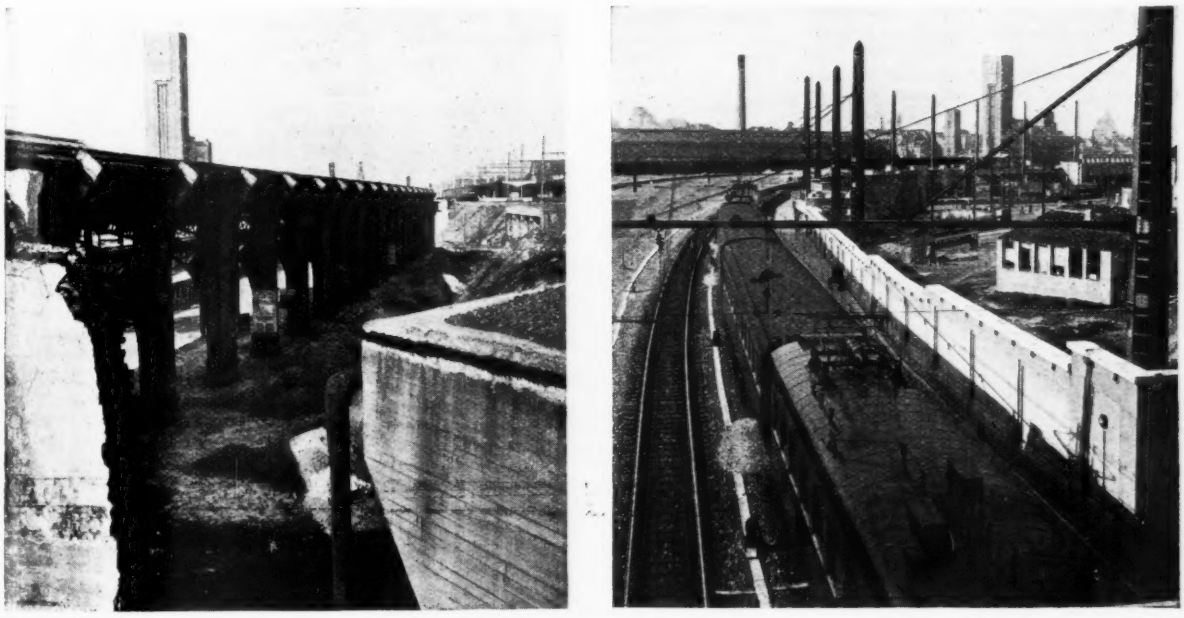
A proposal under review is the grant of authority to the Railway Management to quote reduced freight rates within limits for the conveyance of large consignments of goods. This provision is aimed at checking the growing competition from road hauliers who have the advantage of varying their charges to suit the demands while the railway must adhere to a goods classification fixed by statute.

## FRANCE

### Paris Metro Jubilee

The fiftieth anniversary of the opening of the first section of the Paris Metropolitan Railway will be celebrated in Paris from June 20 to July 2. A committee, comprising members of the Municipal Council and of the R.A.T.P. (Regie Autonome des Transports Parisiens) has drawn up a programme of the principal events for which

## Progress of Brussels Junction Line



*Views showing (left) demolition of Brussels Nord terminus to make way for through high-level station on junction line on right; (right): electric train stabled on completed section of junction line leading from new Nord Station to Botanical Gardens tunnel*

credits of fr. 10,000,000 (about £10,000) have been voted.

The main items of the programme include: a film of Paris transport to be shown at the Palais de Chaillot; documents concerning the Metro to be exhibited at the Musée d' Art Moderne; medals to be struck and a postage stamp issued; official opening of the extension of line No. 13 to Saint-Ouen; reception at the Hôtel de Ville; fêtes in the Bois de Boulogne and Bois de Vincennes; night fête in the Place de l'Hotel de Ville; relays of runners along the route of line No. 1 from Vincennes to the Porte de Neuilly; cycle racing; and the annual R.A.T.P. fête at Croix-de-Berny.

### Easter Holiday Traffic

Official figures of the Easter holiday traffic show that the number of passengers leaving Paris by train for the provinces on Thursday, Good Friday and Saturday were: from Saint-Lazare 55,000, Montparnasse 85,000, Nord 92,000, Austerlitz 78,000, Est 49,000, Lyon 81,000. The total of 440,000 compares with 519,000 last year, a decrease of 79,000 passengers, attributed to road competition and the rise in railway fares.

### Decline in Receipts

Passenger traffic receipts of the National Railways in the first quarter of 1950 totalled fr.53,726 million, against fr. 58,350 million in the first quarter of 1949. This decline is attributed largely to the strikes in March and it is pointed out that traffic began to recover in the last week of the quarter. In the tenth week the receipts fell 15 per cent. below the estimates, 19 per cent. below in the eleventh, 15 per cent. in the twelfth, but only 5 per cent. in the thirteenth week.

Revenue from goods traffic also began to pick up when the strikers returned to work. Receipts fell 19 per cent. below the estimates in the eleventh week, 18 per cent. in the twelfth, but only 11 per cent. in the thirteenth. It is suggested that the decline in railway receipts may be due in part to a general recession in trade; in any event the S.N.C.F. deficit in the first quarter showed an increase relative to the estimates.

## JUGOSLAVIA

### Caribrod Renamed Dimitrovgrad

Caribrod, the frontier station on the Belgrade-Sofia-Istanbul main line, 60¾ miles south-east of Nish, in Jugoslav territory and some three miles from the Bulgarian frontier, was recently renamed Dimitrovgrad, after Dimitrov, the Bulgarian premier and fighter for unity of all the Southern Slavs, who died last year.

Dimitrovgrad is 13 miles from Dragoman, the frontier station on the Bulgarian side, but there are two intermediate stations, both in Bulgaria, Dragoil and Kalotina. The border line between the two frontier stations is also the demarcation line between central European and eastern European time which differ by 1 hr.

The "Simplon-Orient" Express requires 47 min. southbound between the frontier stations, and northbound 21 min. Frontier formalities are (southbound) 36 min. at Dimitrovgrad and 38 min. at Dragoman, and (northbound) 42 min. at Dragoman and 50 min. at Dimitrovgrad. Trains south of Dimitrovgrad are worked by the Bulgarian State Railways.

## WESTERN GERMANY

### Ocean Terminal at Bremerhaven

A new ocean passenger station at Bremerhaven was completed and opened early in April. The station building is situated alongside the deep-water Columbus Quay, used before the war by the largest Norddeutscher Lloyd vessels. Ocean liners have been using the quay again for some months.

The station is officially known as Bremerhaven-Columbusbahnhof, and is about 5½ miles from Bremerhaven main station; the approach line branches off the Cuxhaven line at Speckenbüttel, about 3¼ miles from Bremerhaven Hauptbahnhof, and turns west until reaching Columbus Quay along which it runs south for about a mile.

## Publications Received

*Railroads of New York.* By G. W. O'Connor. New York, U.S.A.: Simmons-Boardman Publishing Corporation, 30, Church Street, New York 7. 10¾ in. × 8 in. 144 pp. Illustrated. Price $4.—This book, which is a pictorial survey of the railways serving New York City and its suburbs, is divided into three sections. The first deals with passenger services, which carry 700,000 passengers daily between the city and its suburbs, and it also gives a description of the principal stations in New York. The second section of the book contains an account of the railway and ferry freight services which constitute the major portion of the work of the various railways. The third section is devoted to the city-owned subway and elevated lines comprising 240 miles of track over which 6½ million passengers are carried daily. Two useful maps, which cover the New York Harbour Terminals and the subway and elevated lines, are contained in a pocket in the back cover.

*Positive Prevention of Corrosion by A.C. Compounds.*—This brochure issued by Manchester Oil Refinery Limited, at 44a, Dover Street, London, W.1, describes the range of anti-corrosive compounds manufactured by this firm. They comprise the A.C.10, for scientific apparatus and instruments and fine mechanism; the A.C.20, for machinery before dismantling or laying up, or which is not easily reached, and for enclosed mechanism, sporting guns, and so on; the A.C.30, for metallic articles not directly exposed to weather, as when in storage or undergoing overhaul; the A.C.40, for semi-exposed storage conditions; and the A.C.50, for exposed storage. Notes are given in each case of the method of application and removal, and of the technical service available.

*Deans Seat Frames.*—The firm of Deans & Son (Yorkshire), Ltd., of Beverley, Yorks, has produced a new tubular seat frame catalogue, which lists the range of seats which it manufactures for passenger service vehicles, and includes illustrations and dimensional diagrams. The catalogue, which contains 36 pages, deals mainly with tubular seats for bus and coach operators, but a page is devoted to a tubular seat frame suitable for railway coaches and railcars. Frames for railway coach seats may be designed to customers' specifications, or the firm will submit designs for approval.

*Molybdenum.*—This book, published by Climax Molybdenum Company of Europe, Limited, 2-3, Crossby Square, London, E.C.3, contains technical and practical information which will be of value to metallurgists and users of molybdenum steels, irons and alloys. The technical and fundamental effects on materials by the addition of small quantities of molybdenum are clearly set out in graph form. The subjects covered in the publication include corrosion resisting steels, high temperature steels for gas turbines, tool and hot die steels, steel and iron castings and non-ferrous alloys. Also included are useful conversion tables.

*Application of Aluminium Alloys.*—An illustrated brochure, published by The Aluminium Development Association, 33, Grosvenor Street, London, W.1, contains information valuable to designers on the application of aluminium alloys in the construction of passenger road vehicles. The brochure, which is non-technical, also illustrates examples of vehicles in which aluminium alloys have been used, and the designs used.

*Summer Holidays in Belgium, Holland, and Luxemburg.*—The usual choice between Brussels, Bruges, the beaches, and the Ardennes is offered to intending travellers to Belgium by the firm of Thos. Cook & Son in its holiday programme; the choice of resorts and hotels is large, and covers almost the whole of Belgium. In Holland there is a choice between city and seaside; and it is good to see that the island of Walcheren has again been won back from the sea, and once more affords a delightful holiday at Middelburg or in one of the coastal resorts. The programme also includes yachting holidays in Holland. Lesser known to British travellers is the Grand Duchy of Luxemburg with its compact range of scenery.

# The First Two Years of British Railways—2

## *Problems and progress in* 1948 *and* 1949

*By Sir Eustace Missenden, O.B.E.,*
*Chairman, The Railway Executive*

IN the first article, I sought to explain the concepts on which the present railway organisation is founded, and the aims we were thereby endeavouring to achieve. I turn now to some of the tasks—apart from those of organisation itself—which the new administration has had to tackle in the first two years. Problems arising not only from the economic position of the railway industry, but of the nation, have necessarily been in the forefront. Space does not allow me fully to deal with them here, but a general survey may perhaps be of value as a background to the study of the second annual report of the British Transport Commission, which will be available in the near future.

During 1948 and 1949, the most serious feature has been the decline in receipts, arising from the general economic situation of the country, and unremitting attention has been given to the securing of traffic. On the other hand, there has been continuous examination of all sources of expenditure to make economies wherever possible without impairing facilities to the public. Compared with pre-war, staff costs have more than doubled, while coal, our principal fuel, has increased threefold, and steel, one of our major materials, 100 per cent. Nevertheless, passenger fares are only 55 per cent. above pre-war, and even if the increase we have now asked for on freight rates is granted, these will only be 81 per cent. higher than they were before the war.

We have thus to look for substantial economy in unification, but, because of the long life of much railway equipment, many of the savings can only be of a long-term character. Following the setting up of the Railway Executive, it was, therefore, essential that standards for equipment and practices should be determined without delay. But the actual implementation of a forward policy is being impeded by the Government's severe restrictions on "capital investment." The limitations apply not only to capital in the sense of additions to our assets, but to the renewal of existing rolling stock and structures and to the repair of the permanent way. Added to the arrears of maintenance during the war, and the abnormal wear and tear of that period, this is a serious set-back to us, but if the national position requires the cut, we can only strive to the utmost to minimise the effects.

Despite the difficulties, improved equipment of various kinds has been introduced during the last two years. It would, however, only be fair to acknowledge that in the first two years of nationalisation we have benefited from orders placed by the former railway companies.

In assessing the tasks before us, regard must be had to the magnitude of the undertaking. British Railways staff —some 625,000—is, apart from that of the National Coal Board, the largest of any undertaking in the country. The route-mileage amounts to some 19,600 miles, comprising some 52,000 miles of track. Our rolling stock includes 19,800 steam locomotives, 4,500 electric train coaches, 36,000 steam train coaches and 1,120,000 freight wagons. For the construction and repair of the locomotives and rolling stock, our large workshops constitute, in effect, an industry in themselves, the workshop staff numbering no less than 90,000. Crewe, Doncaster, Derby, Eastleigh and Swindon, for example, are essentially railway towns; their prosperity is bound up with that of the railways. Our other assets include 73 cross-channel vessels and 63 vessels for service on coastal and inland waters; 13,000 road motor vehicles for freight; and 52,000 dwelling houses over half of which are occupied by our staff. Our trains run some 380 million miles per annum to carry some 1,000 million passengers, and 280 million tons of freight.

British Railways are thus a major element in the whole economic structure and social life of the country. We are the second largest single employer of labour. We are, possibly, the largest buyer of both capital and consumer goods in the country, and thereby have an important influence on the demand for a wide range of materials and on a considerable field of industrial production.

It is with these considerations in mind that we have proceeded with the evolution of standard designs, in which substantial and worthwhile progress has now been made.

### Permanent Way

For the permanent way, we have adopted two sizes of flat-bottom rail, which represents a complete break from the traditional British bull-head rail with its chairs. The heavier of the new rails is 136 per cent. stronger laterally and 59 per cent. stronger vertically than the bull-head rail hitherto in use. The new track will cost more to install, but will require less maintenance, last longer, give smoother riding and better withstand the wear and tear of heavy locomotives at high speed.

The Executive has been able, within limits imposed by the shortage of materials and other factors, to improve considerably the condition of the permanent way; 2,018 miles of track have been completely or partially renewed in 1948, and 1,959 in 1949. We should have liked to do more, although the figures were rather higher than pre-war. Engineers' possessions of the track have, however, been high and affected punctuality considerably. At the end of 1949, as an example, there were in operation no fewer than 203 temporary speed restrictions on the main lines alone.

### Locomotives

Turning to rolling stock, it will be recalled that trials have been held between the various types of steam locomotive—express passenger, mixed traffic and freight—in use by the former companies, with a view to the determination of standard types. Twelve standard designs have been prepared, which will meet future requirements throughout the country, in place of the several hundred types now in use. Between these 12 types, there will be a considerable measure of standardisation and interchangeability of fittings and components. The new designs are in an advanced stage, and some will be in service in 1951. A mock-up of the standard type locomotive cab has been prepared and shown to the staff; the final design will incorporate suggestions put forward by the drivers and shed staff who will have to man and service the engines. Everything possible has been done to ease the enginemen's task and to simplify servicing and overhauls.

The maintenance of our existing fleet of locomotives has also received special attention: a good criterion is the number being repaired or awaiting major repairs in the workshops, and the percentages of 7.29, 6.14 and 5.1 at the end of 1947, 1948 and 1949 speak for themselves.

### Passenger Coaches

Designs have been completed for standard types of passenger coaches for locomotive haulage, and the workshops are now being tooled for their construction. They will be of all-steel construction, extensively welded, and embody techniques new to this country, which should make for lighter weight, greater strength and improved riding. The layout and fitting of the restaurant and kitchen cars have been carefully studied by our officers and those of the Hotels Executive. For intensive suburban traffic we are experimenting in the Southern Region with a double-decker multiple-unit electric train to give increased seating capacity.

As for the general comfort of our coaches, we realise that many vehicles still in service are not all they should be. During the war, carriage building practically ceased and there were heavy arrears of construction which it has not yet been possible to overtake. We have, therefore, had to resort largely to patching up carriages that would normally have been scrapped and make them look as presentable as possible by face-lifting methods, such as re-upholstering and

re-varnishing. All this is very expensive and uneconomical, but I fear that we shall be compelled to continue these devices for some little time yet. Nevertheless, many new coaches are coming into service: there were 1,243 in 1948 and 1,584 in 1949.

### Wagons

Although the wagons of the former railway companies conformed to certain general standards, there were many differences in design, components and constructional methods. There is thus a considerable field of economy in the standardisation of these items and in the extension of mass-production methods. A committee of officers has now completed a report on this important matter, which will shortly be receiving consideration by the Executive.

The Executive's greatest troubles from wagons have arisen from the 600,000 privately-owned vehicles which they acquired under the Transport Act. These vehicles are mostly old, of small capacity and fitted for grease lubrication. They are expensive to maintain and difficult to operate, and the Executive would like to withdraw them as soon as possible. Wagon construction has been limited by Government direction since the Executive came into being, and signs of a certain stringency in the autumn of 1949 point to a need for the Executive's being given more freedom to order new wagons, so vital for the transport of essential traffic such as coal and steel.

### Electrification

Electrification is engaging our active attention. The Liverpool Street-Shenfield suburban line has just been completed. Work is in hand on the conversion of the Manchester-Sheffield main line, where trains—both passenger and freight—will be hauled by electric locomotives, of which 85 are now under construction; the electrification of the first section of this line will be completed in 1951. We have other large schemes under consideration.

A joint committee consisting of officers of the Railway Executive and London Transport Executive, with the addition of an eminent consulting engineer, Mr. F. Lydall, has framed recommendations which should enable us to determine the respective spheres of the conductor rail and overhead line systems and the voltages to be adopted as standard for future installations. We are also experimenting with main-line diesel-electric locomotives and gas-turbine locomotives, while the diesel-electric shunter has been adopted as standard in large marshalling yards. We hope to determine, as far as rapidly changing conditions will allow, the future balance of advantage between the various types of motive power now available.

### Marine

On the shipping side we are going ahead with a large replacement programme. Thirteen cross-channel and four coastal vessels have been added to the fleet since the end of the war, and the introduction of the Denny-Brown stabiliser in certain of our vessels has been successful. Seven ships—six cross-channel and one coastal—are now building. The strengthening of our associations with the countries of Western Europe has led to a detailed study of means to increase the train ferry services which today operate by the Dover-Dunkerque and Harwich-Zeebrugge routes. Last year on the former route at peak periods of cargo traffic we introduced an intensive working whereby four round trips were operated each 24 hours. Altogether last year our ships in cross-channel services to the Continent, the Channel Islands and Ireland conveyed 3,600,000 passengers, 1,300,000 tons of cargo, 94,000 motor cars and 135,000 head of livestock. The passenger figure includes 1,600,000 to and from France—the largest number ever recorded.

### Operating Progress

In regard to traffic working, the public are already enjoying the advantage of many new and cleaner coaches, faster trains, the restoration of seat reservations, and restaurant car services on an extended scale, and a wide range of cheap tickets. Our timekeeping has improved and the present standard of our performance is shown by the following figures:—

**PUNCTUALITY OF EXPRESS TRAINS, 1949**

| | Per cent. |
|---|---|
| Right time ... ... ... ... ... | 43·0 |
| 1–5 minutes late ... ... ... ... | 22·0 |
| 6–10 minutes late... ... ... ... | 12·1 |
| Over 10 minutes late ... ... ... | 22·9 |
| | 100·0 |

An analysis of our internal statistics shows a material improvement in efficiency, though we have not yet fully recovered pre-war standards. Compared with 1947, we are doing more work and doing it faster, with less locomotives, less rolling stock, burning less coal and employing less staff; our staff has been reduced by 24,000 within the last year.

### Freight Services

Trading practice in Britain is characterised by a rapid turnover of stock and the business community expects a quick replenishment. To meet this demand, the Executive in the last two years has effected a general speeding up of its freight services and has been re-building and expanding the service of express freight trains—some with all vehicles fitted with vacuum brakes and others with a proportion of braked vehicles—which practically ceased to operate during the war.

Unification of the railways has enabled the trading community to be better served in many other directions. Traffic which formerly passed over alternative routes has been merged and formed into economic block loads, while merchandise that travelled by circuitous routes has been diverted to the most direct and rapid routes, with a saving in some instances of up to half the mileage. The routing of freight traffic throughout the country is now under review in order that the improved services and economies made possible by unification may be achieved.

Small consignments which were formerly accepted at 6,000 different goods stations are now collected and delivered by road services, and dealt with through 263 railheads and 280 sub-railheads, thus eliminating transhipment and speeding up transit. Cartage is being rapidly mechanised—well over 2,000 horses have been dispensed with since nationalisation—and we are experimenting with electrically-driven vehicles and tractors.

Progress has been made in closing unremunerative branch lines, and, where necessary, arrangements have been made in conjunction with the other forms of transport for adequate alternative services to be given.

The problem of pilferage, which assumed most alarming proportions in 1948, is now definitely yielding to our attack upon it, and I think we shall find there has been a much smaller loss when the 1949 figures are published.

### Staff Training

The future efficiency of British Railways must depend to a great extent on the building up of a contented, trained and experienced staff. The Railway Executive, during last year, gave much thought to staff education, and schemes are in course of development to make the best use of the facilities acquired from the former companies and to improve upon them, where desirable, in the interests of British Railways as a whole. In this connection, the functions and curricula of the various residential training colleges have been reviewed and also the schemes for the selection for training of younger staff in the traffic apprentice and other similar courses. It is intended that such courses shall be open to staff already in the service, and in all our training arrangements we will co-operate fully with outside educational authorities. Our aim in all such schemes is to ensure that each member of the staff has the opportunity to fit himself for more responsible duties if he so cares and if he has the aptitude to take advantage of the facilities provided.

### Co-operation with Overseas Railways

We realise that a big task still lies ahead of British Railways, and, as mentioned in the first part of this article, we try not to neglect any opportunity to learn by the experience of others. Apart from attendance at the usual international conferences on traffic and other matters, members or senior officers of the Executive travelled last year to Belgium, France, Germany, Switzerland and Italy on study missions: this year, it is hoped that some of our officers will visit the United States of America. Last summer six junior officers of British Railways were exchanged, for six weeks, with a corresponding number from the French National Railways: this year there will be similar exchange courses for younger staff both with the French and the Netherland Railways.

In this article, I have emphasised the steps we are taking to blend the best

methods and practices of British Railways in order to achieve a satisfactory and efficient service to industry and the public.

Although much thought and care have been devoted to this aspect of our work, we have at the same time, been working under the guidance of the British Transport Commission in close liaison with the other Executives. In the London area the co-operation already established between the railways and the former London Passenger Transport Board has been developed, and during the year further planning on the basis of the report of our London Plan Working Party has gone forward. On the road passenger transport side, there is, of course, already in existence the series of Standing Joint Committees, established between the former railway companies and the bus undertakings. With the Docks, Road Haulage and Hotels Executives effective liaison has been established, and I am confident that the foundations are being well laid and that once the economic difficulties have been overcome, British Railways will worthily fill their rôle in the properly-integrated system of public transport and afford a service of which Britain, the birthplace of railways, may be proud.

(*Concluded*)

# Fluorescent Lighting for Station Platforms

*The use of fluorescent lighting at Shenfield line stations has been extended to the open part of the platforms*

In the autumn of 1949, when the electrified Liverpool Street to Shenfield section of the Eastern Region, British Railways, was brought into use, fluorescent lighting fittings displaying the station name were installed for the illumination of the covered part of the station platforms. This type of lighting is now being extended to the open part of the platforms by means of lanterns, each containing two 5 ft. 80 W. fluorescent lamps, designed to the requirements of the Electrical Engineer, Eastern Region, by the General Electric Co. Ltd. The lanterns are being erected at Stratford, Gidea Park, Ilford, Harold Wood, Seven Kings, Brentwood, Goodmayes, Shenfield, and Romford.

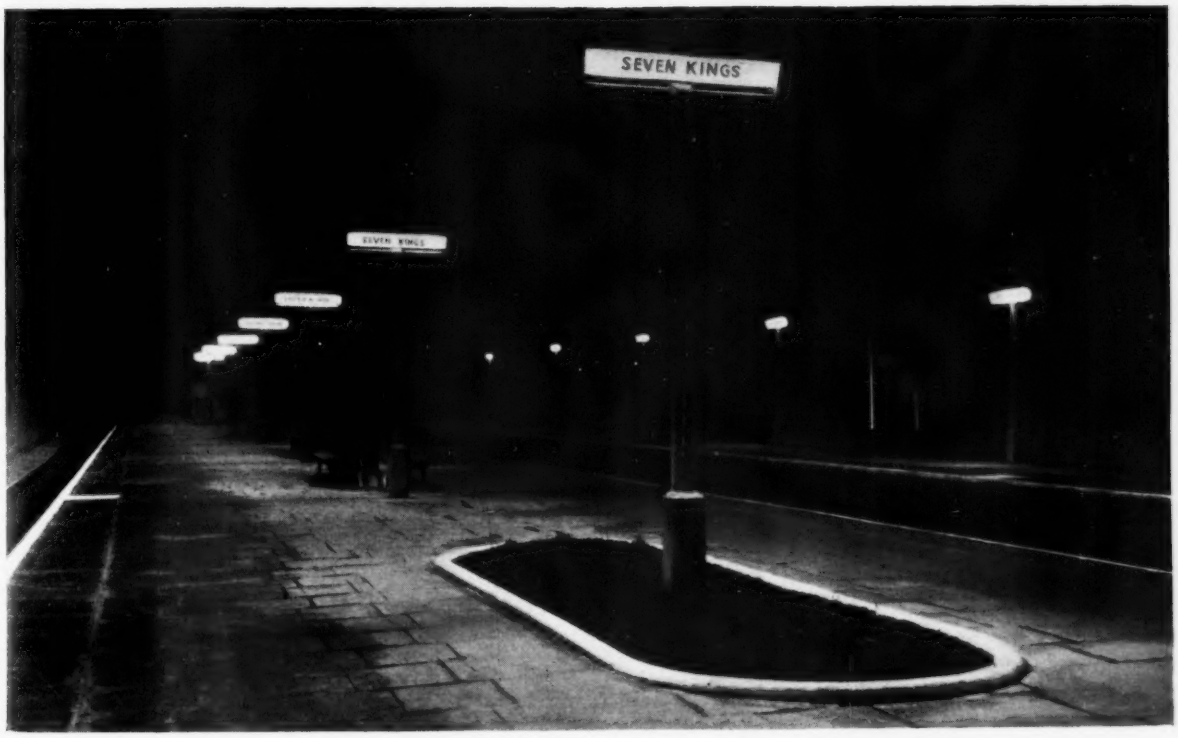
Each lantern is mounted on a reinforced-concrete column, octagonal in section, with a compartment in the base to accommodate the usual control gear for the two lamp circuits. The mounting height to the centre is 12 ft. 6 in. and the columns are 40 ft. apart.

On the single platforms the lanterns are mounted parallel with the track, and those on the island platforms are at right angles to it. The light distribution is such that both methods of mounting provide very even illumination, averaging about one lumen per sq. ft. over the whole platform area. By arranging the lanterns on the island platform at right angles to the direction of travel of the trains it is easier for passengers to read the station names.

Special attention has been given in the lantern design to easy maintenance arrangements and resistance to the effects of weather and soot or grit in the atmosphere. The lamps, arranged one above the other, are totally enclosed by an opalescent plastic trough of low light absorption, with the station name in dark blue on both faces.

The lantern body is made of light alloy, with high corrosion-resisting properties, and has a hinged top which can be opened for access to the lamps by loosening two captive screws. When the top is open, it is supported by a stop in a position which enables it to be used conveniently as a tray in which a new lamp can be placed while a lamp needing replacement is being disconnected.

A steel tube at the bottom of the lantern carries a central cast-steel mounting cap which is attached to the top of the column by two bolts. This arrangement permits easy removal and gives a rigid support for a lantern large enough to accommodate two 5 ft. lamps.




*Platform lighting at Seven Kings Station on the Eastern Region of British Railways*

# Welded Bridges in Northern France

*Ten structures of this type have been erected by the S.N.C.F. and are giving satisfactory service under varying conditions of traffic*

*Testing bridge over the Porte de Douai, Lille*

IN France, electric arc welding has been applied to railway bridges only since 1935, largely because the regulations of the Ministry of Public Works applicable to railway bridges made no provisions for arc-welded fabrication. This was remedied by new instructions issued in 1934, and revised in 1935 and 1946. As soon as they appeared, the then Chief Engineer of the Northern Railway, Monsieur Cambournac, availed himself of the opportunity to try out this method of construction, which had already been used in other countries, and which he had already used for welding rails to bed-plates.

The first arc-welded girder structure was a turntable of 78 ft. 9 in. dia. weighing 225 tons and built in 1935 at Joncherolles shed some four miles outside the Gare du Nord, Paris. Since then, the Northern Railway, and its successor, the Northern Region of the S.N.C.F., have built ten arc-welded bridges, including one with truss girders. Six are of ordinary mild steel (tensile strength 26·7 tons per sq. in.; yield point 15·2 tons per sq. in.; elongation 25 per cent.; permitted stress 8 tons per sq. in.), while the four others, including the truss bridge, are built of high-tensile steel (34-40 tons per sq. in.; yield point 23 tons per sq. in.; elongation 20 per cent.; permitted stress 12 tons per sq. in.).

A description of these ten bridges, and an appreciation of their behaviour under traffic, has been given by Monsieur P. Widmann, a chief officer of the Northern Region, S.N.C.F., in the Belgain periodical *L'Ossature Métallique* of February, 1950.

The first of the bridges, put into service in May, 1936, is a skew bridge at St. Denis, carrying two running lines over two others and having two continuous plate-girder spans some 88 ft. and 115 ft. in length. Shortly afterwards, an important arc-welded bridge was erected to carry two main lines with heavy traffic over the widened Boulevard Ney in Paris. Of the three continuous spans of 73 ft. 2 in., 115 ft. 6 in. and 73 ft. 2 in., respectively, the central span bridges the entrance to a vehicular road tunnel. The two tracks are carried by independent superstructures each of which consists of main plate girders integrated with the intermediate pier supports; the latter are braced transversely. The total weight of this structure is 477 tons. Welding has been used throughout, except that the stringers are riveted to the cross-girders. There followed three minor bridges in the Paris area, at Le Bourget and Landy.

### Truss Bridge

Before the war, the truss bridge was put into service. It is a single skew span carrying a slightly-curved single line across four suburban tracks at Joncherolles where the construction of a new engine shed for the suburban services from the Gare du Nord necessitated extensive remodelling of the lines. The length of the span is 131 ft. and it weighs 109 tons. Arc-welding was used exclusively in its fabrication, and it has concrete decking.

The construction of this bridge had been the subject of extensive research, carried out by the contractors (Schmid, Bruneton et Morin) in collaboration with Monsieur Cambournac of the S.N.C.F. and his staff. The objects of the research were to reduce the secondary stresses due to the rigidity of the structure and to the contraction due to the welding, and to avoid, for this reason, the concentration of welding at the gussets. Further aims were to reduce the thickness of the sections to be welded, leave the welding joints in an easily accessible position and minimise the amount of welding to be done at site.

As a result of this research, the bridge has unorthodox features. The I-beam forming the upper chord is placed

*Underside of decking of bridge at Compiègne*

horizontally to facilitate the assembly of the diagonals and obtain a higher resistance to secondary stresses. The bottom chord, on the other hand, consists of a flat plate about 1½ in. thick which adapts itself readily to deformation. Vertical members have been omitted so as to reduce the number of welding joints at the gussets. In the calculations all known secondary stresses were taken into consideration. When the main girders were assembled in the workshop, they were subjected to stresses similar to those encountered in service, by means of hydraulic jacks acting on the horizontally-placed girder. The girders were then positioned by means of a 32-ton crane.

Another four welded bridges have been built since the war at Stors, Compiègne, Abbeville, and Lille. That at Lille, situated on the main Lille-Béthune line, is by far the most important. The bridge for the down line, carrying 119 heavy trains and five rail-cars a day, has been in operation since August, 1949. The corresponding bridge for the up line is in course of completion. These twin 85-ft. skew spans, weighing 123 tons, are over an important road in the vicinity of the new station at Lille South, replacing three level crossings.

Concluding his survey, the author confirms that all the ten bridges have proved entirely satisfactory in service. The bridge at St. Denis was hit by a bomb, but due to the homogeneity of the welding, the damage was superficial and could be repaired by arc-welding at site. The truss bridge at Joncherolles successfully withstood repeated tests.

*View looking along skew bridge, St. Denis*

## Electric Locomotive for French National Railways

*The first of a new series of 4,000-h.p. 2–Do–2 locomotives with compensated d.c. motors for the Paris-Lyons main line (see our issues of July 15, 1949, and January 27, 1950)*

# Welded Bridges in Northern France

(See article on page 482)

*Skew plate-girder bridge at St. Denis*

*Truss bridge over suburban lines at Joncherolles, near Paris*

*Three-span bridge carrying main line over Boulevard Ney, Paris*

# Vertical Boring Mill Incorporating a Centre-Boring Spindle

*Design which enables locomotive wheel centres to be rough bored, faced, and turned simultaneously*

A RECENT addition to the range of machine tools produced by Craven Brothers (Manchester) Limited is the vertical boring and turning mill specially designed for machining locomotive tyres and wheel centres. One of these machines is installed in the Eastleigh Locomotive Works of the British Railways, Southern Region, and being equipped with two non-swivelling turning and facing saddles and a centre boring spindle, the locomotive wheel centre turning, boring, and facing operations can be carried out simultaneously.

Wheel centres and tyres being of approximately uniform depth, the boring mill has been fitted with a fixed cross-rail, a design which adds considerably to the rigidity of the machine, enabling the maximum cutting speeds and feeds provided to be used to the best advantage and a high rate of production obtained.

Driven by an independent 10-h.p. constant-speed motor, the centre boring head is a fixture on the cross-slide. A three-speed gearbox, and a further two-speed gear change, enable the boring spindle to rotate at 10 to 40 r.p.m. in a direction opposite to that of the main table; the appropriate cutting speeds for boring the wheel centres can be obtained while outside turning operations are performed. The rough boring is carried out with both the boring spindle and table rotating; the finish boring operation is carried out by using a floating cutter, the main table only revolving.

### Auxiliary Table Chuck

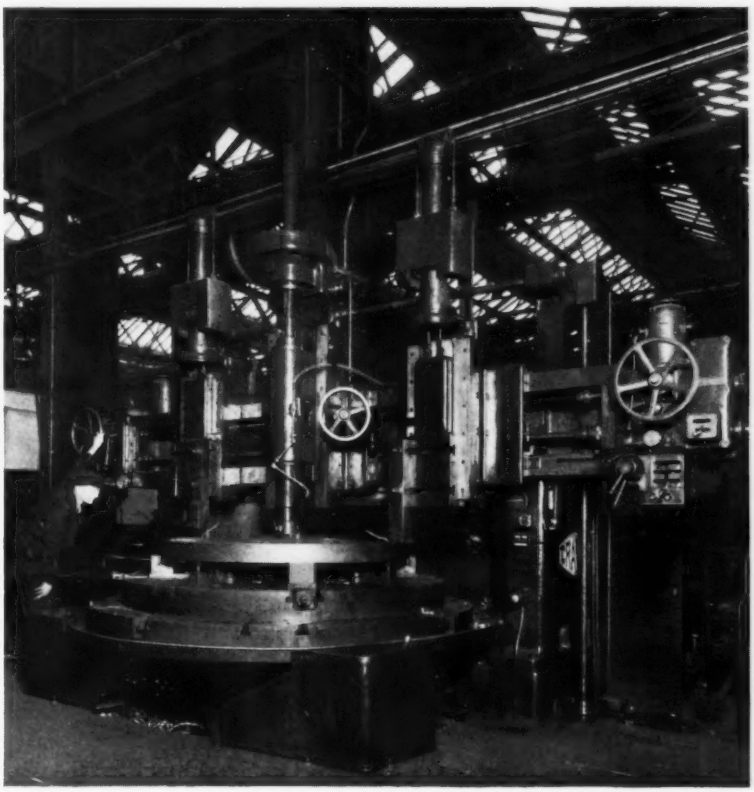
A special feature in the design of the machine is the provision of an auxiliary table chuck having screw adjustment across the main table, the use of which enables the crankpin bore to be brought into line with the machine axis, boring being carried out by using the centre boring head. Re-setting is effected without interference with the original setting. The auxiliary table is securely locked in the required position, and is provided with four independently-adjusted jaws for gripping the inside of the wheel rims, and with three additional clamps for gripping the wheel spokes.

The main worktable has a hollow spindle of ample diameter revolving in parallel phosphor-bronze bearings, and is supported by an annular Vee-type bearing track lined with white metal segments; an oil pump, driven from one of the main gearbox shafts, circulates lubricant both to the table track and centre spindle bearing, the same pump also supplying lubrication to the table spur ring, driving pinion and vertical pinion shaft bearings, and spiral bevel gears which transmit the drive from the main gearbox to the pinion shaft.

The main table, 6 ft. 10 in. dia., is provided with four independent chuck jaws suitable for gripping tyres, for use when the machine is being used for tyre boring, during which operation the auxiliary table is removed. The machine is driven by a 35-h.p. constant-speed motor, arranged on a baseplate at the rear of the bed, through multi-Vee-ropes to a 12-speed gearbox; table speeds range from 1·7 to 25 r.p.m. and a multi-plate friction clutch is incorporated into the drive for starting and stopping the machine, or disengaged by drop worm mechanism. Rapid power traverse is driven by independent motors and is engaged in either direction by reversing-type friction clutches.

The boring spindle is carefully balanced by weights and has its own vertical power feed and rapid traverse motions. Hand adjustment is also incorporated, and the spindle end is bored and cottered to receive the shanks of interchangeable boring bars, the lower ends of the bars being supported by a pilot bush fitted into the centre of the table. The outer boring heads have turret tool holders which can accommodate tools for carrying out the operations involved, the tool holders being indexed between operations to bring the appropriate tool into service. In the case of tyre boring, special-form tools are required, depending on the design of tyre fastening used.

An additional side turning head, carried on the near side upright, which is suitably strengthened for the purpose, can also be supplied with this type of boring mill depending on work for which the machine is required.



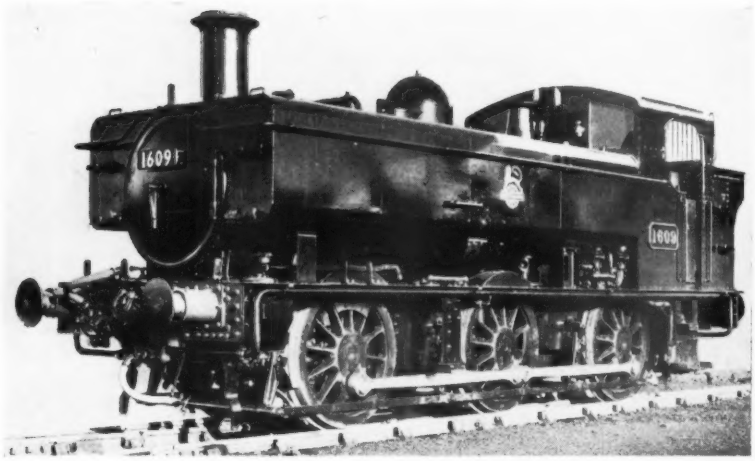
*Craven centre-spindle boring mill, installed at Eastleigh Works, machining a wheel centre for "4 P" class tank engine*

control being by duplicate levers at the front of the machine, where the speed-change levers are conveniently grouped.

Mounted on a rigid cross-slide of deep section, the two turning saddles have a large bearing area, and are fitted with non-swivelling type balanced ram slides arranged with broad facings and tee-slots for the reception of plain or turret-type multi-tool heads. Convenient hand adjustment and horizontal and vertical power feed are independent to each saddle, and rapid power traverse is available in both directions. There are twelve rates of feed, ranging from 0·01 in. to 0·3 in. per revolution of the table; the required feed is selected by levers at the ends of the cross-slide and is engaged

# Western Region "1600" Class Tank Engine

*Light-duty locomotive with inside cylinder and Stephenson valve gear for branch-line working*




A BATCH of 30 light-duty, 0-6-0 type pannier tank engines, several of which have already been placed in service, are being built at the Swindon works for service on the Western Region, British Railways. The locomotives, which are intended to replace the older branch-line engines built between 1875 and 1905, have inside cylinders 16½ in. dia × 24 in. stroke with Stephenson valve gear.

The frames are of steel plate in. thick and all axles have journals in. dia. and 8 in. long; the overall length of the engine over buffers is 30 ft. 2 in. with a wheelbase of 14 ft. 8 in. The locomotives can negotiate a 4-ch. curve at normal speed of a 3½-ch. curve at slow speed. The boiler has been designed with nickel-steel barrel plates to reduce weight.

Leading dimensions are as follow —

| | |
|---|---|
| Cylinders | 16½ in. × 24 in. stroke |
| Coupled wheels, dia. | 4 ft. 1½ in. |
| Boiler pressure | 165 lb. per sq. in. |
| Heating surface :— | |
| Firebox | 79·5 sq. ft. |
| Tubes | 877·2 sq. ft. |
| Total | 956·7 sq. ft. |
| Grate area | 14·9 sq. ft. |
| Tractive effort | 18,515 lb. |
| Water capacity | 875 gal. |
| Coal capacity | 2 tons 10 cwt. |
| Weight in working order | 41 tons 12 cwt. |

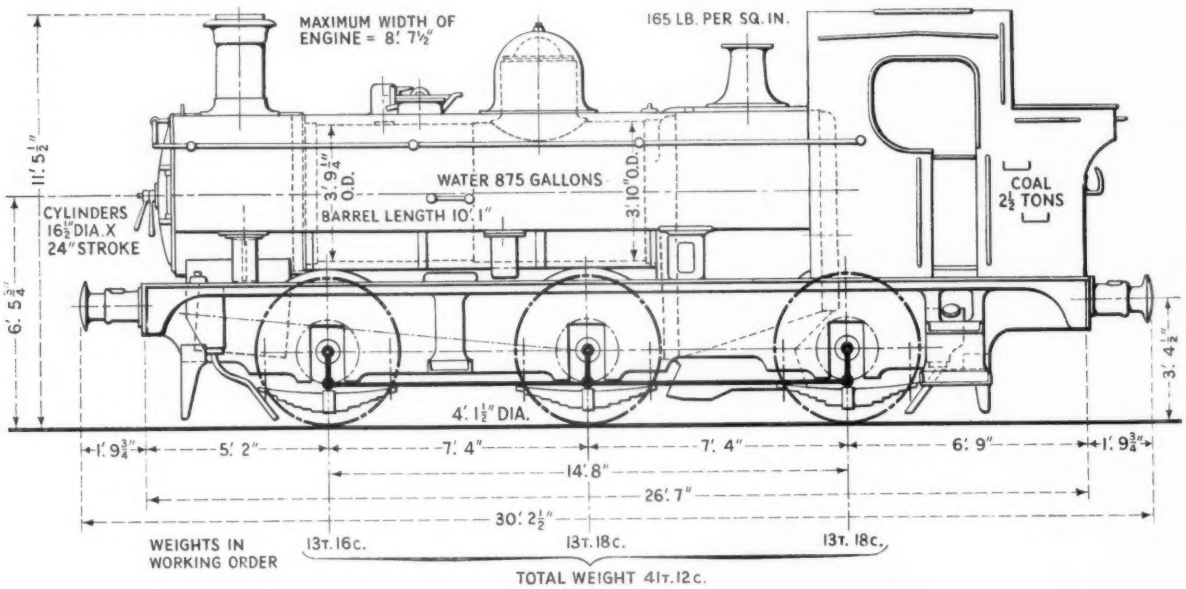



*Diagram showing principal weights and dimensions of the locomotive*

SCOTTISH MOTOR TRACTION COMPANY.—Repayment of the 6½ per cent. preference stock at 25s. for £1 is recommended by the directors of the Scottish Motor Traction Co. Ltd. The premium of 5s. is to be met from the capital reserve fund, and will cost £125,000; half of the repayment of capital to preference stockholders, with the premium, is payable by the British Transport Commission. The recommendation is intended to meet the objections of some preference stockholders to the resolution to repay preference stock at par mentioned in our September 2, 1949, issue. It will not affect distribution to ordinary stockholders of 3 per cent. British Transport stock 1968-73 at the rate of £4 nominal for each 5s. unit of ordinary stock held by the public. Appropriate resolutions will be put to meetings on April 26 of holders of the various stocks.

SCANDINAVIAN TRAVEL AGENTS.—A cocktail party for 32 Scandinavian Travel Agents visiting this country was given on April 19 by the Railway Executive and the Hotels Executive at the Charing Cross Hotel, London, W.2. The joint hosts were Mr. David Blee, Member of the Railway Executive, and Mr. F. G. Hole, Member of the Hotels Executive, supported by chief and executive officers of the two Executives and other officers of the British Railways. The guests included leading representatives of the British Travel & Holidays Association, which sponsored the visit, and of the transport, hotel, and catering Press, and representatives of the Scandinavian Press in London. The Travel Agents, who arrived on April 13, made a ten-day tour of historical places and beauty spots in England, Scotland, and Wales.

# RAILWAY NEWS SECTION

## PERSONAL

Khan F. M. Khan has been appointed Director-General of Railways, Government of Pakistan, and has been succeeded in his previous post of General Manager, North Western Railway, by Mr. W. A. Hewitt. Mr. J. G. Creighton, Director of Mechanical Engineering & Stores, Railway Division, Government of Pakistan, who has lately been acting as Director-General of Railways, is expected to arrive in Great Britain on leave about the end of next month.

Mr. D. C. Woodward, General Manager, Nigerian Railway, is in England on leave until the beginning of June.

Mr. A. B. Demmer and Mr. H. R. Gunawardhana have been appointed Operating Superintendent and Commercial Superintendent, respectively, of the Ceylon Government Railway. Mr. J. A. Gnanapragasam has been appointed Assistant Divisional Transportation Superintendent.

At the recent annual general meeting of the Federation of British Industries, Sir Robert Sinclair, the retiring President, was unanimously elected for a second year of office.

The Lord President of the Council has appointed Professor Sir Ian Heilbron to be Chairman of the Advisory Council for Scientific & Industrial Research, in place of Sir Geoffrey Heyworth, who resigned lately on account of pressure of other public duties.

Consequent on Mr. J. C. Dean's transfer from the West Yorkshire Road Car Co. Ltd. on his appointment to Directorships in the Bristol group of bus companies, the following appointments have been approved:—Mr. H. N. Tuff (Chief Engineer, United Automobile Services Limited) as General Manager, West Yorkshire Road Car Co. Ltd.; Mr. Eric Tuff (Chief Engineer, West Yorkshire Road Car Co. Ltd.) as Chief Engineer, United Automobile Services Limited.

PRESENTATION TO MR. R. M. T. RICHARDS

At an informal gathering, presided over by Mr. Stanley Adams, Chairman of Thos. Cook & Son and of the Pullman Car Company, last week, the principal officers of those companies entertained Mr. R. M. T. Richards, who is about to retire as Deputy Chief Regional Officer, Southern Region, British Railways, as guest of honour. An umbrella, suitably engraved, was presented to him as a token of the esteem and affection in which he is held by the officials of those two companies. The opportunity was also taken by Mr. Adams to send Mrs. Richards a gift, coupling her name with Mr. Richards' happy association with the two organisations. Mr. Richards, in reply, referred to his very early association with the House of Cook and the Pullman Company. He had pleasant memories of his happy contacts with their officials.

Mr. Ernesto Iglesias, who, as recorded in our March 31 issue, has been appointed General Manager of the General Mitre (former Central Argentine) Railway, spent the greater part of his business career in banking, having occupied important posts in the Italian Bank, Bank of the Argentine Nation, and Central Bank of the Argentine Republic. His ability led to his appointment by the Minister of Transport as Chief of the Automotive Transport Division of the Ministry, the position he now leaves to become General Manager of the General Mitre Railway.

*Mr. Ernesto Iglesias*

Appointed General Manager of the General Mitre (former Central Argentine) Railway

INSTITUTE OF METALS

The first award of the W. H. A. Robertson Medal of the Institute of Metals has been made to Mr. W. J. Thomas and Mr. W. A. Fowler, for their paper on "Some Technical Problems Influencing Production Economy in the Rolling of Aluminium," published in the Institute's *Journal*. The authors are Assistant Managing Director, and Production Manager (Manufactured Materials), respectively, of the British Aluminium Co. Ltd.

The council of the Institute of Metals has accepted an offer by the directors of Imperial Chemical Industries Limited to place at its disposal a sum of money sufficient to found a medal to be awarded as a memorial to Dr. Walter Rosenhain, F.R.S., the distinguished British metallurgist and Past-President and Fellow of the Institute. The medal will be awarded annually for outstanding contributions to knowledge in the field of physical metallurgy.

Captain A. R. S. Nutting has been appointed Chairman of Coast Lines Limited. He is Chairman of the Westinghouse Brake & Signal Co. Ltd., Consolidated Signal Co. Ltd., and other companies.

Mr. A. L. Allpress, Assistant to the General Manager, and Mr. N. E. Norman, Assistant Traffic Officer, of the Nyasaland and Trans-Zambesia Railways, are at present in Great Britain on leave.

The following have been appointed to the Conservative Parliamentary Transport Committee for the 1950 session of Parliament: Chairman, Mr. Peter Thorneycroft; Vice-Chairman, Lord Hinchingbrooke; Honorary Secretary, Mr. Geoffrey Wilson.

We regret to record the death of Mr. G. W. Smyth, Superintendent (Financial), General Manager's Office, South African Railways.

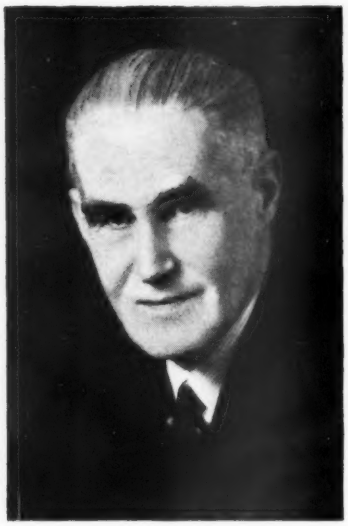
Mr. Frank Parr, who at present holds an executive position with the British Iron & Steel Federation, is joining the Whitehead Iron & Steel Co. Ltd., and its associated companies, as a Special Director.

Mr. G. E. Curtis, District Goods Manager, Wolverhampton, London Midland Region, who, as recorded in our March 31 issue, has been appointed Executive Officer (Goods), Railway Executive Headquarters, London, was educated at Oakham School, and joined the L.N.W.R. as a probationer in 1917. From 1917-19 he served as 2nd Lieutenant, R.F.A. After receiving training in the Goods, Traffic, and Coaching Departments, he was appointed in 1923, District Runner, Chester & Holyhead District, and, in 1924, Acting Outdoor Assistant, Bangor. From 1929-33 Mr. Curtis served in the Development and Research Sections, Chief Commercial Manager's Office, and then until 1938 on the Vice-President's personal staff. He was Goods Agent, Keighley, 1938-39, and in September, 1939, was seconded to the Ministry of Food, and served as Port Food Movement Officer, Liverpool. In 1942-43 he spent nine months in the U.S.A. as Assistant Director to advise the British Food Commission on transport problems. In 1944 Mr. Curtis returned to the L.M.S.R., as Assistant District Goods Manager, Warrington, and in 1945 he was appointed Assistant to Chief Commercial Manager (Goods). He became District Goods Manager, Wolverhampton in 1946.

Mr. H. H. Swift, B.E., M.I.E.E., Acting Electrical Engineer, Eastern & North Eastern Regions, who, as recorded in our April 14 issue, has been appointed Executive Officer (Electrical Engineering, New

*Mr. G. E. Curtis*

Appointed Executive Officer (Goods), Railway Executive



*Mr. H. H. Swift*

Appointed Executive Officer (Electrical Engineering, New Works & Development), Railway Executive

*Mr. J. Bradley*

Appointed Assistant Chief Mechanical Engineer, Western Australian Government Railways

Works & Development), Railway Executive Headquarters, London, was educated at St. Peter's College, Adelaide, South Australia, and at Adelaide University, where he obtained the degree of Bachelor of Engineering. He subsequently entered the works of Siemens Schuckert in Berlin, and on the outbreak of the 1914-18 war was interned as a civilian prisoner of war at Ruhleben. After the war Mr. Swift joined The English Electric Co. Ltd., and was employed on important electric traction schemes in Japan, South Africa, Denmark and Poland. In 1936 he joined the L.N.E.R. as Assistant Electrical Engineer, when he was chiefly engaged in the scheme work for the electrification of the lines between Manchester and Sheffield and from Liverpool Street to Shenfield. In 1941 Mr. Swift was appointed Assistant Chief Electrical Engineer of the L.N.E.R., when the department of the Electrical Engineer was separated from that of the Chief Mechanical Engineer. On nationalisation in 1948 he was made Electrical Engineer (Acting), Eastern & North Eastern Regions, British Railways.

Mr. J. Bradley, M.I.Mech.E., M.I. Loco.E., who, as recorded in our January 27 issue, has been appointed Assistant Chief Mechanical Engineer, Western Australian Government Railways, was educated at the Grammar School, Ashton-in-Makerfield, Lancashire, and served an apprenticeship from 1912 to 1919 with the Vulcan Foundry, Limited, being, during 1917-18, a cadet member of the Royal Air Force, lecturing on aeroplane engines at cadet schools. He subsequently gained further experience with Sir W. G. Armstrong, Whitworth & Co. Ltd. In 1928 Mr. Bradley joined the Madras & Southern Mahratta Railway, and was appointed Production Engineer, to inaugurate a system of production control, planning, progress and rate-fixing in the new workshops at Perambur, Madras. Later he served as Carriage Works Manager, and afterwards as Locomotive Works Manager, until 1945, when he was appointed Deputy Chief Mechanical Engineer. He acted as Chief Mechanical Engineer for six months in 1947, and again from May, 1948, to May, 1949. From 1942 to 1946 he served in the Indian Engineers, with the rank of Major.

Mr. C. C. Kirk, Assistant Chief Accountant, East African Railways & Harbours, who has retired, joined the Great Western Railway in 1916, and served in the Gloucester, Cardiff and Newport Divisions, until he was appointed to a post in the Chief Accountant's office of the Tanganyika Railways in 1925. In 1946 Mr. Kirk became Chief Accountant of the Tanganyika Railways, and on the amalgamation of the Kenya & Uganda and Tanganyika railway systems he was designated Assis-

*Mr. C. C. Kirk*

Assistant Chief Accountant, East African Railways & Harbours, who has retired

*Mr. George Smith*

District Operating Superintendent, Hull, N.E. Region, who has retired

*Mr. G. H. Bowes*

Assistant to Commercial Superintendent (Freight), N.E. Region, who is retiring

tant Chief Accountant of the East African Railways & Harbours. Latterly he has been seconded to the General Manager's department, where he has been engaged on special work in connection with staff matters and organisation.

Mr. George Smith, M.B.E., who has retired from the position of District Operating Superintendent, Hull, North Eastern Region, British Railways, joined the North Eastern Railway at York in 1900. He enlisted on September 4, 1914, in the Territorial Force, and in 1915 was commissioned in the Royal Engineers (T.F.). He was posted to a field company, and, after serving with the 6th Division in France and Belgium, was transferred to the Railway Operating Division in 1917. He was demobilised in 1919, with the rank of Captain, and returned to the York District Superintendent's Office, as Train Clerk. Shortly afterwards he went to the Ministry of Transport, returning to the N.E.R. in 1921, and later becoming one of the first Deputy Chief Controllers in the Main Line Control at York. Subsequently Mr. Smith held various appointments until he was made Yardmaster, Hull (1938); Supernumerary Assistant to District Superintendent & District Locomotive Superintendent, York (1942); Deputy Head of Central Traffic Office, Marylebone (1942); Assistant District Superintendent, Darlington (1944); and Assistant District Superintendent, Hull (1947). Mr. Smith was appointed to the position of District Operating Superintendent, Hull, in 1949.

Mr. G. H. Bowes, who is retiring on April 30 from the position of Assistant to the Commercial Superintendent (Freight), North Eastern Region, British Railways, was born at Kirbymoorside, and joined the North Eastern Railway there as a clerk in 1901. Two years later he was chosen to be personal clerk to the Chief Passenger Agent, York (later the Passenger Manager). In 1913 Mr. Bowes was appointed Chief Staff Clerk to the District Passenger Manager, York, and four years later was transferred to a similar post in the District Goods Manager's Office, Newcastle. He returned to York in 1920 to join the General Manager's Staff Section, and was appointed Head of the Joint Goods and Passenger Managers' Staff Section in 1922. In 1931 he was promoted Chief Clerk, Goods Manager's Rates Section, and he was appointed Rates Assistant in 1932. In 1945 he became Assistant Goods Manager (Rates), with responsibility for rates and development questions. When the commercial departments were reorganised at the beginning of 1949 he was appointed Assistant to the Commercial Superintendent (Freight).

R. E. CHARLEWOOD—APPRECIATIONS

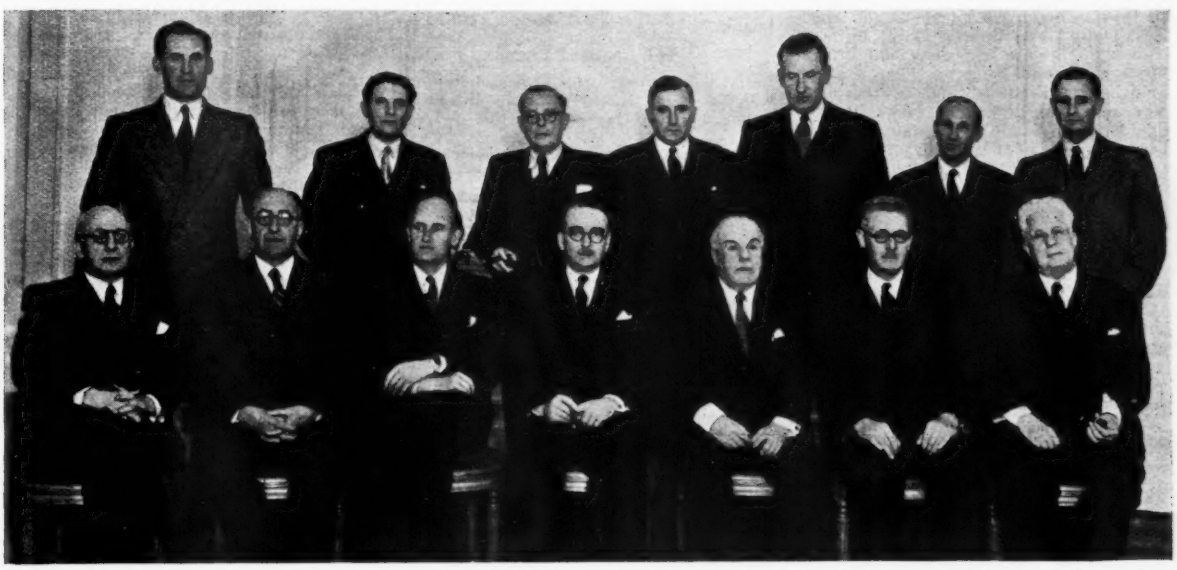
I was extremely sorry to read of Charlewood's death. Although circumstances had contrived to keep us apart in recent years, I felt I was still in close contact with him through reading his instructive contributions on passenger train working in *The Railway Gazette* as well as the historical survey of the old Midland Railway in *The Railway Magazine*—to mention only a small part of his considerable output. With such a wide knowledge of railway operational problems, linked to constructive suggestions for the betterment and revision of timetables, it was a great pity that failing health should have prevented him from making greater use of his undeniable talents. By no means of an ebullient disposition, and possessed of a reserve which at times it was not easy to penetrate, he went about his work with such calm and imperturbable detachment that anyone accompanying him on a journey found it hard to realise that he was engaged in the gentle—if at times misrepresented—art of "timing." How supremely accurate his records invariably were! I shall always remember a particular run of his on the L.N.E.R., in which, according to the tabular data published, the maximum speed down Stoke bank was given as 89½; I am willing to bet that most of us would shamelessly have put down "90" in our note books! It was fitting that he should have been the first recorder authentically to "clock" a G.W.R. "Castle" at 100 m.p.h., and one can be certain that he would not have hesitated to set down "99½," had such been the case. "R.E.C.'s" passing will be deeply regretted by a large circle of railwaymen and railway enthusiasts alike.

J. E. L. SKELTON

The death of R. E. Charlewood means an irreparable loss to the world of railway literature, for he was a walking encyclopædia of information on railway passenger operating, of which he had made a special study, and in which he had had many years of practical experience on the old Midland and later on the L.M.S.R. I never knew him to make a mistake or be guilty of inaccuracy in any matter concerning railways. There was little about them he did not know, and what he said of that little would always be with due reservation. This reliability was a quality of Charlewood's not confined to his railway interests. He was the very embodiment of it in his whole life. Apart from his signed writings, Charlewood was the author of many articles in railway journals. He was also generous in undertaking the revision and checking of many another's writings, and in giving invaluable advice and guidance out of the depths of his railway knowledge. The drying-up of this unique and freely-given source of information will leave its mark.

W. A. WILLOX

## Signing of English Electric—Spanish National Railways Contract



*A group taken after the signing of the £2¾ million contract between the English Electric Export & Trading Co. Ltd. and the Spanish National Railways, to which reference was made in our April 7 issue*

*Back row (left to right):* Mr. K. Bamford, Mr. G. C. Pelham, Mr. P. Malcolm Thomson, Mr. A. Vassilissin, Mr. Chesney, Mr. Webb, Mr. H. S. Pound-Corner. *Front row (left to right):* Mr. Viani (Electrical Engineer, Spanish National Railways), Mr. J. de Aguinaga (Technical Director, Spanish National Railways), Mr. R. M. A. Hankey (Chargé d'Affaires), Mr. L. H. Short (Director, English Electric Export & Trading Co. Ltd.), Count de Guadalhorce (President, Spanish National Railways), Mr. S. Potter (English Electric Export & Trading Co. Ltd.), Mr. Flaubert (Chief Mechanical Engineer, Spanish National Railways)

# British Railways Summer Services

*Features include additional cross-country services, suburban stops by main line trains, and more cheap travel facilities*

This year, British Railways summer services will operate from Monday, June 5, to Sunday, September 24.

Sir Eustace Missenden, Chairman of the Railway Executive, announced the principal features of the services on April 25.

To help intending summer travellers with their advance arrangements, supplies of timetables and facilities for advance reservation of seats have been made available much earlier than last year. Most regional timetables are already on sale, and intending travellers can book now for all summer services on which seats are reservable. These comprise 735 trains on weekdays (except Saturdays), 964 trains on Saturdays, and 318 on Sundays—an increase of 48 per cent. on last summer. Passengers may now buy tickets, book seats and reserve berths at any London main-line terminus for journeys from any other London terminus.

### Improved Services

Although the overall mileage, 4,324,000 miles per week, will be much the same this summer as last, it has been possible by withdrawing lightly-loaded trains to introduce in their place additional services scheduled to run every week. The number of such services is 328 more than last summer; of these 78 will run on Saturdays only and 20 on Sundays only. As the result of a special study, 323 poorly-patronised trains have been withdrawn since the beginning of the year, and the number of coaches allocated to various trains has been reduced because of light loading.

In view of the heavy loading at weekends, a special feature is being made of Friday night and Saturday services. Eighty-nine main line and cross-country trains are planned to run on entirely new schedules, and 24 pre-war weekend expresses will be restored for the first time.

The new cross-country services will include Manchester, Birmingham and Hastings; Oxford and Bournemouth; Birmingham and Margate; Newquay and Bristol; Birmingham and Paignton, Penzance and Manchester; Bradford and Scarborough; Newcastle and Lowestoft; Newcastle and Llandudno; Clacton and Mansfield; and Leeds and Yarmouth. Many of the cross-country trains which ran last summer will be re-introduced, enabling holidaymakers to avoid crossing London and other large cities.

### Accelerations

Faster running and shorter stops at stations will result in over 90 weekday and 35 Sunday trains being accelerated by from 10 to 67 min. compared with last summer's services. Examples are:—

| | | |
|---|---|---|
| 11.15 a.m. | Euston to Afonwen (The "Welshman") ... ... ... ... | 46 min. |
| 3.40 p.m. | Weymouth to Paddington ... | 15 min. |
| 10.0 a.m. | Kings Cross to Edinburgh (The "Flying Scotsman") ... ... | 34 min. |
| 10.50 a.m. | Waterloo to Torrington ("Atlantic Coast Express") ... ... | 25 min. |
| 10.8 a.m. | Tynemouth to Glasgow ... ... | 22 min. |
| 4.15 p.m. | Inverness to Wick... ... ... | 12 min. |
| 9.8 a.m. | (*Saturdays*) Glasgow to Kings Cross | 67 min. |

### Restaurant and Buffet Cars

In conjunction with the Hotels Executive, there will be more facilities for refreshments than last summer, as shown in the following table:—

| | Summer 1949 | | | Summer 1950 | | |
|---|---|---|---|---|---|---|
| | Saturdays Excepted | Saturdays Only | Sundays | Saturdays Excepted | Saturdays Only | Sundays |
| Restaurant cars ... ... ... ... ... | 465 | 472 | 178 | 492 | 554 | 208 |
| Buffet cars ... ... ... ... ... | 131 | 136 | 23 | 133 | 152 | 32 |
| All-Pullman trains ... ... ... ... | 19 | 17 | 10 | 19 | 19 | 14 |
| Ordinary trains in which Pullman cars are run | 76 | 81 | 47 | 76 | 81 | 47 |

Further progress is being made in standardising departure times of express services. For example, trains will leave Kings Cross for Newcastle at 10 a.m., 12 noon and 2 p.m., and for the West Riding of Yorkshire as far as possible at 15 and 45 min. past the hour. Departures from Liverpool Street to Clacton are being standardised at 30 min. past the hour, and in the reverse direction the departures will be at the hour.

### Suburban Stops

To enable passengers from suburbs to avoid beginning their main journey from the city, a number of long-distance trains will call at local stations, for example:—

| *Some trains to and from* | *Will call at* |
|---|---|
| Paddington... ... ... | Ealing Broadway, Slough, Maidenhead, Twyford, and High Wycombe |
| St. Pancras ... ... | St. Albans and Luton |
| Euston ... ... ... | Willesden and Watford |
| Liverpool Street ... ... | Stratford, Ilford, Romford, Brentwood, and Shenfield |
| Marylebone ... ... | Harrow, Aylesbury, and High Wycombe |
| Kings Cross ... ... | Hitchin |
| Charing Cross ... ... | Sevenoaks, Woolwich Arsenal, New Cross, Hither Green, and Orpington |
| Victoria ... ... ... | Sutton, East Croydon, Herne Hill, Beckenham Junction, Bromley South, and Swanley |
| Waterloo ... ... ... | Surbiton and Woking |
| Manchester London Road | Wilmslow |
| Manchester Central ... | Cheadle Heath, Didsbury, and Stockport |
| Liverpool Lime Street ... | Mossley Hill |
| Liverpool Exchange ... | Ormskirk |
| Birmingham ... ... | Stechford |
| Birkenhead ... ... | Hooton |

### Trains Re-Timed

In response to public suggestions a number of trains which ran last summer will be run at more convenient times. For example, the 9.25 a.m. Liverpool to Plymouth will be diverted *via* Weston-super-Mare and the 3 p.m. (Sundays) Kings Cross to Newcastle will run *via* Hartlepool instead of Darlington.

### More Named Trains

The named trains which ran last summer will be re-introduced and the following four new named trains will operate:—

*The "Easterling"*
10.40 a.m. Liverpool Street to Yarmouth
6.50 p.m. Yarmouth to Liverpool Street.

*The "Broadsman"*
6 a.m. Sheringham (6.25 a.m. Cromer) to Liverpool Street.
3.40 p.m. Liverpool Street to Cromer and Sheringham.

*The "Red Dragon"*
7.30 a.m. Carmarthen to Paddington
5.55 p.m. Paddington to Carmarthen

*The "Tynesider"*
11.45 p.m. (Weekdays) 11.30 p.m. (Sundays). Kings Cross to Newcastle
10.35 p.m. (Daily). Newcastle to Kings Cross

Every week 393 sleeping car trains will run on long-distance night services. This is the same as last year, but there will be more sleeping accommodation on the trains as 94 more cars will be in service each week.

### Steamship Services

In addition to the services operating last summer, there will be new steamer services between Folkestone-Boulogne (evenings), Dover-Ostend (Friday nights), Ostend-Dover (early Sunday mornings), and Boulogne-Folkestone (Sunday mornings). Sailing tickets to Ireland will be required only at certain weekends and a few days mid-week during the busiest period.

### Runabout and Cheap Tickets

The main passenger policy of the Railway Executive is to introduce cheap fares where it appears likely that earnings can be increased so as to secure a greater net revenue. The number of passengers conveyed at excursion and cheap day fares during 1949 was twice as great as in 1948.

This summer there will be more cheap fare facilities to enable the public to enjoy day and half-day outings, also evening trips. The runabout ticket, available for 5, 6 or 7 days, will be available from April 30 in 77 areas, as compared with 52 areas last year when 338,000 were sold.

An entirely new feature is a series of "all-in" tours from Lancashire and Yorkshire towns. Of particular interest are two special restaurant car trains which will leave each Saturday from June 10 to September 9 conveying holidaymakers for a week's tour of famous beautiful and historic places in Scotland; the charge will include rail fare, meals on trains, hotel accommodation, and coach and steamer trips, etc.

### Track and Bridge Renewal

Considerable strides have been made to restore the track to first-rate condition for faster running; 3,980 miles of line have been partially or completely renewed in the last two years, and 707 miles of this have been relaid with flat-bottom rails. It is also planned to renew nearly 1,800 miles of track this year, including 580 miles with flat-bottom rails. By the use of mechanical devices to speed up relaying work it is expected that the duration of permanent way speed restrictions will be shortened. Only about 2 per cent. of main trunk line mileage is affected at any one time.

In reconstructing bridges, arrangements are made to undertake the work at times when the least interference will be caused to traffic; wherever possible the opportunity is taken to improve the design to allow faster running or the use of heavier locomotives. For example, of 220 bridges renewed in the last two years, 20 of the new structures have enabled speed restrictions to be removed and six have allowed heavier locomotives to be used. This year it is planned to renew 155 bridges, 19 of which will allow faster running and four the use of heavier engines. The seven welded steel bridges to replace those destroyed by floods in south-east Scotland in August, 1948, will be completed before the summer service begins.

The building of locomotives and rolling stock for 1950 includes the following:—

| | |
|---|---|
| Locomotives ... ... ... ... | 476 |
| Coaches ... ... ... ... | 2,386 |
| Brake and luggage vans ... ... | 369 |
| Fish vans, milk tanks, horse boxes, etc. | 979 |
| Wagons ... ... ... ... | 33,959 |

New units put into traffic during the first quarter of this year total:—

| | |
|---|---|
| Locomotives ... ... ... ... | 87 |
| Coaches ... ... ... ... ... | 376 |
| Brake and luggage vans ... ... | 28 |
| Fish vans, milk tanks, horse boxes, etc. | 242 |
| Wagons ... ... ... ... ... | 6,016 |

There is still an acute shortage of modern coaches and although the Railway Executive would like to have built 4,500 this year the maximum possible will be 2,386. During 1949 the number of staff on British Railways was reduced by some 24,000.

# Institution of Railway Signal Engineers

*Annual general meeting, presentations, and Mr. F. Horler's presidential address*

The annual general meeting of the Institution of Railway Signal Engineers was held in London on March 17, with Mr. R. Dell, retiring President, in the Chair during the formal business proceedings. After the notice convening the meeting and the report of the auditors had been read, Mr. Dell reviewed the principal features of the annual report pointing out that, although there had been some increase in receipts from subscriptions, working expenses had increased. The report and accounts were formally adopted.

Mr. Dell then presented to Mr. W. Owen, Member of Council, the first prize for the session for his paper "Speed Control Signals for Close Headway Working," which was the subject of an editorial article in our April 7 issue. The second prize had been awarded to Mr. J. P. Coley, for a paper on "Relay Standardisation."

Mr. Dell referred to the work done for the Institution by Mr. T. S. Lascelles since 1935 as Honorary Treasurer, and since October, 1947, as Honorary General Secretary, until the end of 1949, and expressed the appreciation of the Council and members of his services, asking his acceptance of an inscribed gold watch as a mark of their thanks and regard.

Mr. Lascelles, in reply, spoke of the help he had received from everyone in the Institution with whom he had been brought into contact, and referred to the assistance he had received from his company's Secretary & Accountant, Mr. Edgar Turner, and the Chief Clerk, Mr. George Sisley. He also mentioned the aid given by the Honorary Editor, Mr. V. S. King, and the services of the Honorary Committee Secretaries, Messrs. T. Austin, W. H. Challis, and W. Owen. Mr. Lascelles concluded by thanking his successors, Mr. G. J. Dickin and Mr. B. Reynolds, for offering to assume the offices of Honorary General Secretary and Honorary Treasurer, respectively, and the Council and members for the gift.

The composition of the Council for 1950 was announced as follows: President, Mr. F. Horler; Vice-Presidents, Mr. S. Williams and Mr. T. S. Lascelles; Members of Council, Messrs. T. Austin, E. G. Brentnall, F. Burton, C. G. Derbyshire F. B. Egginton, J. H. Fraser, J. C. Kubale, D. G. Shipp J. F. H. Tyler, C. F. D. Venning (from the class of Member); Messrs. M. Le Sueur, F. Mann, N. Marshall, A. L. Mills, W. Owen and R. A. Powell (from the class of Associate Member). A certain number of Past-Presidents remained to be co-opted by the new Council. After Mr. F. Horler, the President elect, had been invited to assume the Chair, Mr. J. C. Kubale moved, and Mr. F. Downes seconded, a vote of thanks to Mr. Dell for his services as President during the preceding 12 months. Mr. Dell replied, expressing the pleasure his term of office had brought to him, and his thanks to those who had helped to make it a success.

### Presidential Address

Mr. F. Horler delivering his Presidential Address, began by referring to the correctness of the early ideas and principles met with in signalling. These had been made more effective with the development of scientific processes, enabling them to be utilised to ever increasing advantage, and ending in the ability to work points and signals at considerable distances, not originally envisaged. The colour-light signal meant more, when it appeared, than did the semaphore, bringing with it a new adaptability and greater efficiency. Modernisation moved rather slowly in Britain because of the thorough character of the early equipment so widely applied and so serviceably built, which had made replacement irreconcilable with economy.

The work of the early pioneers had become often so much identified with a particular name that the apparatus was at times referred to by it, without further qualification. The first 50 years of development had been marked by a notable list of such names; then came a time of consolidation, followed in more recent times by a fresh turn of progress. Today the signal engineer had to keep abreast of modern progress in all fields and adapt new techniques to his own engineering work; tradition and convention were ceding the path to modern systems.

Signalling could not be taught compactly by fixed rules: it was as much a matter of experience as theoretical knowledge, and it was continually expanding. The problem of technical training was difficult to solve, and had been created partly by the way in which signalling had developed, but the true relationship of signalling to the other departments of railway working had come to be recognised by two of the former separate railways in this country, and had been confirmed under nationalisation for the entire system.

The Institution was justified in pressing for full recognition by railways and manufacturers; its work was of direct benefit to the railways and it was an active educational force. It was hoped that its examinations would be recognised in due course as providing a definite standard in the signal and telegraph departments, similar to the acceptance of those held by other Institutions in other lines of work.

## Engine Named "Port Line" at Southampton

In view of the close association of the port of Southampton with the Southern Region of British Railways, it was decided to hold the latest "Merchant Navy" class locomotive naming ceremony there, instead of at Waterloo Station, where most of the previous engines of the class have been named. The engine selected, No. 35027, was named *Port Line* by Mr. W. Donald, Chairman of Port Line Limited, at the New Docks on Monday, April 24.

Mr. R. P. Biddle, Docks & Marine Manager, Southampton, who presided at the ceremony, said that the Port Line had a war record second to none. At the outbreak of war the company had 28 ships in its fleet and two were being built; 50 per cent. of this fleet had been lost through enemy action, but by building new vessels, the line had restored its fleet practically to pre-war establishment.

Mr. Donald, before naming the locomotive, said that there was a common bond between all transport organisations, as their purpose was to give service to the community. It was appropriate that this ceremony should be at Southampton because it was the terminal port in this country of their parent company, the Cunard Steam Ship Co. Ltd., and it was a matter of pride to the Port Line that this engine would carry that name.

The ceremony was followed by a luncheon on board ss. *Falaise* at which Mr. Biddle presented Mr. Donald with a framed photograph of the locomotive and a coffee table bearing a reproduction of the Port Line house flag. Mr. Donald, replying, referred to the impressive gesture made at Southampton by flying the Port Line flag alongside the British Railways house flag and paid a tribute to the spirit aboard ss. *Falaise*.

## North British Locomotive Co. Ltd.

The annual general meeting of the North British Locomotive Co. Ltd. was held in Glasgow on April 24, when Mr. J. B. Mavor, Chairman, first paid a tribute to Sir Frederick C. Stewart, whose death occurred during the year. Sir Frederick Stewart joined the board of the company in January, 1944, and became Chairman when Mr. William Lorimer retired in April, 1946.

The accounts, stated Mr. Mavor, showed a further material strengthening of the financial position. After providing for depreciation, etc., the profit for the year was £426,623. From this had to be deducted £230,881 for taxation, making a net profit of £195,742; and the profit and loss account showed a proposed transfer of £50,000 to the general reserve, £60,000 to capital replacement and development reserve account, and £25,000 to the non-contributory pension fund.

The residue was £60,742, to which had to be added £67,810 from last year, making a total available of £128,552. They must, however, deduct the interim preference dividend of £10,313, which left £118,239. The directors recommended a final dividend of 2½ per cent on the preference stock and 5 per cent. on the ordinary stock. These dividends, subject to tax at 9s. in the pound, amounted to £44,687 net, leaving a balance of £73,552 to be carried forward to the credit of the profit and loss account.

Depreciation had been maintained at the enhanced figure of £75,000, and in spite of this, their fixed assets had been increased by £75,000 approximately. The new item on the assets side of the balance sheet under "loans to staff" represented loans for purchase of houses.

It would be seen that current assets exceeded liabilities by approximately £1¾ million. This did not, however, indicate that they had a surplus of funds at their disposal, which would be seen from the bank overdraft shown.

The present position of the order book could be viewed as satisfactory as it contained work which would keep them fully employed until the beginning of 1952. Continental competition was now reasserting itself, and must be met, but, with nearly £800,000 in revenue reserve accounts and the will to work, they were in a sound position.

The report and accounts were adopted.

STEEL TUBULAR TRACTION POLES.—The British Standards Institution has published a revised version of B.S.8: 1950, Steel Tubular Traction Poles (Circular Cross-Section). Copies are obtainable from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, price 2s., post free.

## North Eastern Region Staff Conference

A further meeting in the series of conferences convened by the Chief Regional Officer, North Eastern Region, for the purpose of affording representatives of the staff an opportunity of expressing their views on various phases of railway work, was held at Hull on April 21.

Mr. H. A. Short, Chief Regional Officer, presided, and was accompanied by Mr. W. P. Allen, Member of the Railway Executive for Labour & Establishment, as well as by other Regional and district officers. About 130 representatives of railway staff in the Hull district were present and four district organising officers of the railway trade unions.

A useful discussion took place on a wide variety of questions and problems covering national, regional, and local matters bearing on the efficiency and economical operation of the railways, and the provision of improved public transport service. Other matters discussed related to conditions of service, including welfare and amenities.

Mr. W. P. Allen took the opportunity to explain the policy of the Railway Executive on certain aspects of railway work and staff relations, and joined with Mr. H. A. Short and the Regional officers in replying to questions raised. The meeting was the first presided over by Mr. Short since his appointment to the North Eastaern Region on January 1.

This was the eighth in the series instituted by Mr. C. P. Hopkins, the former Chief Regional Officer, York, of such informal conferences within the Region, and Mr. Short intends to arrange further similar conferences in the future.

## Staff & Labour Matters

### Mr. Figgins on N.U.R. Wage Claim

In the *Railway Review* of April 21, Mr. J. B. Figgins, General Secretary, N.U.R., deals with the reasons why the union continues to press its claim on behalf of lower paid railwaymen. The two fundamental considerations, he writes, on which the claim is based are the increase in the cost of living and the inability of the Railway Executive to attract and retain staff which would enable the industry to fulfil the anticipations of improved efficiency under nationalisation.

There has been a radical change in opinion regarding "restraint" on personal incomes; important trade unions which had formerly supported this have decisively changed their policy. Mr. Figgins quotes an article in *The Times* on April 13 to the effect that "It seems clear that the statement of Government policy on wages after devaluation was too rigid and that the reluctant decision of the General Council of the T.U.C. to support it, though courageous, was unrealistic. To ask for a further year of strict stability in wages to be accepted voluntarily was to misjudge the temper and natural inclinations of the trade union movement."

"In this light" Mr. Figgins states "I think we are entitled . . . . to expect from the Railway Executive favourable response to our application, since it is one on which there is almost unanimous agreement, namely, that the lower-paid workers in industry, *i.e.*, those below £5 per week, are entitled to favourable consideration."

The increase of 7s. 6d. a week which the minimum rated worker had as a result of the Court of Inquiry recommendations in June, 1947, and which increased the base rate from 85s. to 92s. 6d., was no more than the increase in the cost of living which resulted from the decreased purchasing power of the £ between July, 1945, and June, 1947. As the purchasing power of the £ is now 81, compared with 91 in June, 1947, there is justification, in the cost of living alone, for a further increase for the railwaymen on 92s. 6d. to 100s. a week; especially since the index of weekly rates of pay in outside industries (which on June 30, 1947, equalled 100, now stands at 110). This proves, argues Mr. Figgins, that in many industries the wages of the workers have been advanced by 10 per cent. since the minimum rated railwayman received his last increase on the basic rate of pay; had a similar advance been given to railwaymen, it would have meant at least another 9s. for the man at 92s. 6d. per week, which is more than the N.U.R. is claiming.

### Railway Pay Unattractive

As to the contention that the Railway Executive cannot attract staff, Mr. Figgins says "If the Railway Executive is to get the right type of employee it is essential that . . . . the rates of pay attract and retain employees who will have a real interest in railway operations. All the evidence is to the contrary." Difficulties in recruiting staff are quoted, and it is the N.U.R. view that on existing wage rates it is quite impossible for the Executive to attract staff.

Regarding the financial position of British Railways, it is pointed out, the N.U.R. is in no way responsible. It is the duty of the Railway Executive and the British Transport Commission to associate themselves with the N.U.R. in insisting on the Government giving effect to the promise made by the Minister of Transport at the time the Transport Bill was in committee, when he said "If by any chance it is found that this facility (that is, in connection with "C" Licences) is being in any way abused, we shall not hesitate to take the necessary steps to put it right."

"The growth of 'C' Licences," says Mr. Figgins, "has been phenomenal, and had the concession on them not been made by Mr. Barnes in committee, we are justified in concluding that a considerable amount of the increase of 100 per cent. of tonnage conveyed by 'C' Licences today, as compared with 1946, would have been conveyed by British Railways."

## Questions in Parliament

### Railway Freight Charges

Sir Austin Hudson (Lewisham, North—C.) on April 24 asked the Minister of Transport whether he was yet in a position to state if he proposed to accept or reject the advice tendered to him by the permanent Members of the Transport Tribunal under section 82 of the Transport Act, 1947.

Mr. A. Edward Davies (Stoke-on-Trent, North—Lab.) asked the Minister of Transport whether he was yet in a position to make a decision and announcement in respect of the proposal to increase railway freight charges.

Mr. Alfred Barnes (Minister of Transport): A decision on this matter will be announced this week.

Mr. David Renton (Huntingdon—Lib. Nat.): Can the Minister assure the House that the Transport Commission's proposal to increase freight charges is not being replaced by the Chancellor of the Exchequer's proposal to increase the petrol tax and to impose a new purchase tax on commercial vehicles?

Mr. Barnes: I must ask Mr. Renton to await my statement.

Mr. Geoffrey Wilson (Truro—C.): Does the Minister agree with the statement in *The Railway Gazette* that the increased Budgetary proposal with regard to petrol will cost the Transport Commission £3 million a year, which will wipe out a large part of any increase in railway charges?

Mr. Barnes: I think that is a different point. If Mr. Wilson wants to get the correct figures and will communicate with the Commission, I am sure it will give them to him.

## Parliamentary Notes

### Budget Proposals and Transport

Mr. R. A. Butler (Saffron Walden—C.), speaking in the resumed debate on the Budget proposals in the House of Commons on April 19, said he feared that the petrol tax would result in an increase in fares. He also said that the tax on lorries would seriously hit "C" licence holders, and asked whether that was a further effort to "feather bed" the railways. If one was to get some sort of understanding between road and rail, surely the right course was not to use vindictive measures in the Budget, but to get ahead with what they thought was one of the intrinsic features of the nationalisation programme, namely, some understanding between road and rail on the rate structure?

Speaking in the third day's debate on the Budget, on April 20, Lt.-Commander Gurney Braithwaite (Bristol, North West—C.) said that both the purchase tax on vehicles and the increased petrol duty seemed to be part of a despairing attempt to drive goods and passengers back to the railways.

Mr. A. Edward Davies (Stoke-on-Trent, North—Lab.) asked whether a sound economic case could not be made out, in the interests of the well-being of the country, for road, water and rail services to be integrated so that trade and commerce could have the advantage of the best possible and most economical system of transport? There was no other answer to the problem. A leader in *The Financial Times* that day, on the effect on transport costs of the Chancellor's proposals, had said that if they were aimed, as some people suggested, at relieving the railways, no immediate relief there was likely.

### Taxes Not for Railways' Benefit

Mr. Alfred Robens (Parliamentary Secretary, Ministry of Fuel & Power), referring to the petrol tax, said that the Home Secretary had authorised an increase in taxi fares in London of 3d. per journey. The argument that the tax on commercial vehicles and the petrol tax represented an attempt to bolster up the railways could not stand. As a matter of fact, the British Transport Commission would be the largest single payer of the tax. It would cost it in a full year some £6 million. He added that even if the full cost of the increased price of petrol were added on to road passenger fares, the average fares on long-distance road transport would still be well below the corresponding railway charges.

The present fleets of commercial vehicles appeared to be adequate to deal with the freights offered. As new vehicles were required and the imposition of 33⅓ per cent. purchase tax was felt, it would be a capital cost spread thinly over the life of the vehicle.

On the subject of passenger fares, Mr. Robens said the effect of the 9d. on petrol would be to increase the overall costs by 4 per cent. in the country and 5 per cent.

in London. That should not lead to many additional applications for fare increases. In any case, fares on provincial buses and coaches were governed by the conditions attached to the road service licences by the licensing authorities. Clearly, when an application was made for an increase in fares the licensing authority would look not merely at the petrol costs, but at the past, present and prospective financial position, the operating results and the traffics of the whole of the undertaking.

So far as London Transport fares were concerned, the Transport Tribunal was considering a passenger charges scheme presented under Part V of the Transport Act. The object of that scheme was to bring into greater equality fares for journeys of similar length and for those running between common points by alternative routes, so that under the scheme some fares would go up, and some down. It would certainly give London Transport an increase of about £3¼ million in their receipts. The scheme had no relevance to the increase in the petrol tax. The Tribunal would consider all objections at a public hearing, which would be held shortly. It would take into consideration the increase in the petrol tax and other factors, and would then decide its policy in relation to fares. Very clearly the imposition of the 9d. tax was no justification for increasing fares.

### Transport in West Dorset

Mr. S. Wingfield Digby (West Dorset—C.), on the motion for the adjournment of the House of Commons on April 21, raised the subject of transport. He complained that bus services were inadequate in many of the outlying villages in his constituency, and, no doubt, the new tax proposals would not make fares any cheaper in the long run. The difficulties were aggravated, under the new set-up of the Transport Commission, by the increasing difficulty for newcomer buses to provide those services which were lacking.

The position in regard to rail services in West Dorset was even worse. He had been surprised recently when a constituent had written stating that, although both the Great Western and the Southern Railways had been nationalised, tickets from Bridport to London were still not interchangeable, and that if a traveller went down the long line *via* Yeovil he could not go back on the short line, changing stations at Dorchester. That seemed to be a kind of case where co-ordination could be carried out by the Transport Commission. When he had taken up the question, he had received the following from Sir Cyril Hurcomb, Chairman of the Transport Commission: "The whole question of interavailability is bound up with the railway fares' structure, and this is now under review in connection with the charges scheme. The problem is a very complicated one, and any attempt to alter the existing arrangements at the moment would clearly be undesirable." That showed the need for pressing on with the scheme.

Mr. Alfred Barnes (Minister of Transport) said he did not think it was quite right to suggest, as had Mr. Digby, that there had been delay in establishing the regional or area consultative committees. It often occurred to him that there was insufficient appreciation of the great task which the Transport Commission had had to undertake in taking over a vast and varied range of transport properties. He did not think it would have served any very useful purpose if the whole machinery of the consultative committees had been brought into being during the difficult transitional stage.

He did not dissent from, or wish to challenge, the view that one of the consequences of public ownership ought to be the making of the interavailability of services and tickets much more general than in the past. But that, again, was linked to a variety of circumstances, and could only come about by a more general decision. It was not always possible to deal with cases individually. He had been informed that at present the Commission was carrying on without any variation of the interavailability arrangements which had prevailed between the two late companies. Although it might be said there had been no advance in that arrangement, there certainly had been no disturbance of it.

## Increase in Haulage Rates

After a meeting called to discuss the Budget increases in the price of petrol, and the imposition of 33⅓ per cent. purchase tax on new vehicles, the National Rates Committee of the Road Haulage Association, representing hauliers operating 120,000 vehicles under "A" and "B" licences, has advised members of the Association to increase all haulage rates by 10 per cent. immediately to meet the resultant additional cost.

Mr. Frank F. Fowler, Chairman of the Committee, said: "The Budget increases represent a crushing blow to hauliers who work on a very small margin of profit, and the only course open to them is to pass the increase on to their customers."

On April 20, a joint letter was sent to the Chancellor of the Exchequer on behalf of the F.B.I., the Association of British Chambers of Commerce, and the National Union of Manufacturers, expressing the view that the Budget proposals would inevitably increase costs at a time when the necessity to curb all inflationary pressures was paramount. There were many cases where no satisfactory alternative to road transport was available; moreover, the purchase tax on commercial vehicles appeared to stretch the application of this form of taxation, hitherto essentially confined to consumer goods, to an important class of capital expenditure.

Mr. R. Erskine-Hill, Organising Secretary of the Omnibus Passengers Protection Association, issued a statement on April 20 to the effect that the proposals were an attempt to drive traffic off the roads and on to the railways. It was all very well for the Chancellor to say that he did not expect many increases in bus fares. A consumption of, say, 10 miles a gallon for fuel oil meant another 1d. a mile, and a consumption of 6 miles a gallon for petrol meant another 1½d. a mile.

A statement by the Public Transport Association points to the increase in the tax as an unjustifiable burden on the road passenger transport industry. It would mean many applications for substantial increases in fares, and particularly in urban areas, and for cutting down unremunerative services. The travelling public would, therefore, inevitably suffer.

INSTITUTE OF PACKAGING MIDLAND AREA DINNER.—The annual dinner of the Midland Area of the Institute of Packaging will take place on May 15 at the Imperial Hotel, Birmingham, having been arranged to coincide with the period of the British Industries Fair. The Honorary Secretary of the Midland Area is Mr. A. J. Clayton, 5, Boswell Road, Erdington, Birmingham, 22.

# Notes and News

**Senior and Junior Draughtsmen Required.**—A firm of locomotive builders in Lancashire require the services of senior and junior draughtsmen, experienced in the design of steam, diesel or electrical locomotives. See Official Notices on page 495.

**Institution of Civil Engineers.**—At a meeting of the Institution of Civil Engineers, Great George Street, Westminster, London, S.W.1, on May 9 at 5.30 p.m., Mr. L. E. Hawkins will read a paper on "Maintenance Considerations Affecting the Design of Railway Structures."

**Inter-Allied Railway Club Ball.**—The ball of the Foyer Interallié des Chemins de Fer (Inter-Allied Railway Club), known as the "Nuit de la Locomotive," took place on April 21, at the premises of the International Union of Railways. Full details were given in our April 14 issue.

**London Midland Region (London) Orchestral Society.**—On Friday, May 12, the London Midland Region (London) Orchestral Society is presenting a vocal and instrumental concert in the large hall, Friends House, Euston Road, London, N.W.1, commencing at 7.15 p.m.

**Permanent Way Institution, London Section.**—On Saturday, May 13, the Permanent Way Institution, London Section, is visiting the Severn Tunnel Pumping Station. The party, which will be limited to 35, will leave Paddington Station at 8.55 a.m. and is due back at Paddington at 9 p.m.

**London Transport Dramatic Club.**—On April 20, 21 and 22, the London Transport Dramatic Club gave three performances of Ben Travers' farce "Rookery Nook" at the Fortune Theatre, London, W.C.2. The acting reached the usual high standard of the Club, as did the production of the play, which was by Miss Gladys Burchell. A selection of incidental music was played by the London Transport Orchestra under the direction of its able conductor, Mr. William Lean.

**Institute of Transport.**—The Graduateship and Associate Membership examinations of the Institute of Transport will take place on Monday, Tuesday, and Wednesday, May 1, 2 and 3, at centres throughout Great Britain and in many places overseas. The addresses of the examination rooms at centres in Great Britain were printed in the March issue of the *Journal*. Acceptances of entry forms have been sent to all candidates and any candidate who has not received his should write without delay to the Secretary of the Institute at 80, Portland Place, London, W.1.

**Refrigeration Van Services.**—The closer integration of European refrigeration railway car services was the subject of a three-day congress at Copenhagen, which ended on April 21. Countries represented included Germany, Austria, Belgium, Denmark, France, Italy, the Netherlands, Norway, Sweden, Switzerland, and Czechoslovakia; the Interfrigo Company sent representatives. Four main points on the agenda were: (1) General discussions on means of achieving the most effective use of existing refrigeration vans in Europe; (2) investigation on whether such means should be extended to include privately-owned refrigeration vans; (3) examination of the structure, experiences, and functioning of organisations formed by various national railways to investigate the expedition of railway freight in refrigeration vans

at reduced temperatures; (4) discussion as to whether such organisations could be charged with the carrying out of a more extensive use of refrigeration van traffic. No final decisions were reached at the congress. A further international congress on the subject of refrigeration van services is to be held in Copenhagen in June.

**Churchill Machine Tool Company.**—A final dividend of 15 per cent., the same as for 1948, on the ordinary shares is recommended by the directors of the Churchill Machine Tool Co. Ltd., again making 30 per cent. for the year. The net profit, after deduction of charges, including £140,500 (£134,000) tax, was £119,909 (£102,912), of which £43,520 is allotted to payment of ordinary, and £3,776 to that of preference dividends, both these amounts being the same as last year.

**Continued Progress of Road Haulage Association.**—The balance sheet of the Road Haulage Association for 1949 shows that the overall surplus of income over expenditure at £22,663 is the highest it has ever been. The general reserve rose from £32,438 in 1948 to £54,185 in 1949. In spite of nationalisation the income for 1949 was slightly higher than the record figure for the previous year. During the first two months of 1950 no fewer than 242 new members have been enrolled.

**Hall Telephone Accessories Results.**—The net profit for 1949 of Hall Telephone Accessories Limited, after deduction of £28,846 tax, was £42,274, compared with £41,981 for the previous year; this includes £12,740 (nil) E.P.T. recovered, but nothing in respect of price adjustments on contracts, which were £13,123 for 1948. An amount of £27,500, against £25,000, has been allotted to investments reserve, and a dividend of 10 per cent. is again recommended, leaving £22,926, against £25,893, to be carried forward.

**New Cross-Channel Car Ferry.**—On April 6 Townsend Brothers Ferries Limited put into commission a new Cross-Channel car ferry, which was originally constructed as a frigate during the war and has been converted by the Cork Dockyard Company. The vessel, TSS. *Halladale*, has accommodation for about 60 cars, mostly under cover, and 350 passengers. At English times, departure from Eastern Docks, Dover, is at 11 a.m. and arrival at Calais 12.30 p.m.; the return crossing is from Quai Paul Divot, Calais, at 2.45 p.m. and arrival at Dover 4.15 p.m. Due to an accident at Calais on April 17, *Halladale* has temporarily been withdrawn from service, but is expected to be reinstated at the end of the month.

**Collaboration between F.B.I. and B.E.T.R.O.**—An "engagement to render mutual aid" has been agreed by the F.B.I. and B.E.T.R.O. This, it was recently announced by Sir Norman Kipping, Director-General of the F.B.I. and by Mr. Roger Falk, Director-General of B.E.T.R.O., besides eliminating some overlapping, hitherto, between the two bodies, was a step to improving the constructive help available to British exporters. B.E.T.R.O. will continue as an entirely independent overseas research body and will be financed solely by industry through its membership and turnover of work; it will receive a final payment from the Government in respect of the Board of Trade grant-in-aid, but thereafter no request for Government funds will be made. The F.B.I. will promote wider use of B.E.T.R.O. for market research among F.B.I. members; B.E.T.R.O., through facilities to use the services of F.B.I. representatives overseas, will be able to arrange overseas market research at an economical cost for its own and F.B.I. members and for exporters generally. B.E.T.R.O. will cease to handle export enquiries outside the field of market research, which are a function of the F.B.I. and other oganisations.

**Holman Pneumatic Tools.**—The firm of Holman Bros. Ltd., Camborne, will be showing a wide range of products at the B.I.F., Castle Bromwich, including various pneumatic tools for metal working and a selection of hammers for chipping, caulking, riveting, and scaling.

**Metropolitan-Cammell Coaches for Ceylon.** — The Metropolitan-Cammell Carriage & Wagon Co. Ltd., Saltley, Birmingham, has secured from the Ceylon Government Railways in the face of keen Continental competition an important export order comprising 65 third class coaches, 10 second class sleeping coaches, and 15 third class coaches with brake vans, the total value of the order being £820,000.

**Edgar Allen Exhibits at the B.I.F.**—This year, the stand arranged by Edgar Allen & Co. Ltd. at the B.I.F., Birmingham, will emphasise the very wide range of products made by this firm, rather than on individual details, though as in previous years there will be displayed the latest butt-welded high-speed tools, and so on. In the steel foundry section there will be shown a large cast-steel locomotive driving wheel mounted on the same shaft as a much smaller wheel of the same type.

**Display of Thos. W. Ward Products.**—Thos. W. Ward & Co. Ltd., will have two stands at the B.I.F. On the indoor stand at Castle Bromwich will be photographs of those branches of the activities of this group which cannot be exemplified by actual machines, such as factory planning and installation work, railway construction work, and the like, while the outdoor stand will contain examples of the machinery and industrial plant marketed by the parent company, together with examples of the products of its subsidiary companies.

**Passenger-Operated Doors on the Northern Line.**—The opening of train doors by passengers was introduced at Northern Line stations from Golders Green and East Finchley northwards on April 18. The system is designed to add to the comfort of passengers by eliminating the necessity for opening all train doors at surface stations and so allowing car interiors to become cold or wet in inclement weather. Passengers will be able to open doors, as required, by means of push-button switches inside and outside the cars, though the closing of the doors will remain under the control of the guard. The same system was introduced on the Central Line in October, 1948, and on the Bakerloo Line last December.

**Fishguard & Rosslare Railways & Harbours Company.**—The net revenue for the half-year ended December 31, 1949, of the Fishguard & Rosslare Railways & Harbours Company, jointly operated by the British Transport Commission and Coras Iompair Eireann (as successors respectively of the Great Western and Great Southern & Western Railways), was £39,430, provided under the guarantee of the working companies. Of this sum, £13,904 was allocated to interest on debenture stock at 3½ per cent., £21,659 to dividend on new guaranteed 3½ per cent. preference stock, and £3,867 to dividend on new 3½ per cent. preference stock 1914. No dividend was declared on the ordinary shares, as they are held by the parties guaranteeing the interest, that is, the operating companies.

**Road Vehicle Lighting Regulations.**—The Minister of Transport has made new Road Vehicles Lighting Regulations which consolidate with some amendments the regulations made in 1936. These are obtainable from H.M. Stationery Office.

**Motorists' Cross-Channel Facilities.**—Motorists visiting the Continent will no longer have to ensure that their petrol tanks are empty when travelling on cross-Channel ships as henceforth there will be no restriction on the amount of petrol carried in any ship. This will make little difference to the outward journey, but it means that tourists can return with full tanks in all these ships.

**Reconstructed Bridge at Gorton.**—On April 16 one of the arches of the occupation bridge leading to and from Tanyard Brow Road, Gorton, Eastern Region, was reconstructed. The bridge, which spans four railway tracks, two between Manchester (Central) and London (Marylebone), and the other two forming a junction connecting Manchester (Central) with Manchester (London Road), was demolished in January, as there was not sufficient clearance for the overhead line conductor system required for the Manchester-Sheffield-Wath electrification scheme. The new arch consists of prestressed concrete beams, each weighing approximately 35 cwt. The second arch is to be similarly rebuilt, and the roadway will be restored.

**Indian Express Wrecked.**—An express train was wrecked near Bareilly, United Provinces, about 130 miles south-east of Delhi, on April 12. The cause is given as sabotage. Fifty persons were killed and 73 injured. Rails were removed near a small bridge. The train ran off the track and plunged into a river bed. It is feared here that this act may be part of the campaign of disruption on Indian railways threatened by the Communists. Several recent accidents to trains have been traced to sabotage, including the wrecking of the Madras-Calcutta mail on March 3. Armed patrols have since been posted along the railway lines in Madras province. Similar precautions may now be adopted in the United Provinces, following the latest disaster.

**Keith Blackman Equipment in Canada.**—Early next month the distribution of the Keith-Blackman range of fan engineering and industrial gas equipment will be extended to incorporate the Canadian market. Fan engineering specialities including axial, propeller, and centrifugal fans; air heaters; air washers; fume and dust removal units; and industrial gas equipment comprising compressors, injectors, burners, nozzles, valves, and controllers will be marketed under the name Tornado. The firm of Vokes (Canada), Limited, operating from Hermant Building, 21, Dundas Square, Toronto, has been appointed the sales service and stockholding organisation. Keith Blackman, Limited, will be exhibiting at the 1950 Toronto Trade Fair.

**Fire at Derby Works.**—Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region, has received a letter from Mr. John Elliot, Chief Regional Officer, in which Mr. Elliot expresses his regret at the misfortune on April 19, when the general stores and a large part of the

# OFFICIAL NOTICES

TECHNICAL SALES REPRESENTATIVE required for service in Midlands and North by manufacturers of Locomotive & Carriage Specialities. Salary according to qualifications, which could with advantage include experience of Locomotive and Carriage design and/or construction. Apply in writing stating age and giving details of previous experience to Box 534, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

SENIOR MECHANICAL DRAUGHTSMEN required immediately for large engineering establishment in Glasgow, preferably with steam, diesel or electric locomotive experience. Applications from men with first class qualifications and sound general mechanical training will receive every consideration. Good salaries and working conditions, also contributory superannuation scheme.—Address 0641, WM. POSTEOUS & Co., Glasgow.

SENIOR AND JUNIOR DRAUGHTSMEN required by firm of Locomotive Builders in Lancashire. Men with experience in design of Steam, Diesel or Electric Locomotives preferred, but men with general mechanical engineering experience having designing ability will be considered. Five-day week and excellent working conditions. Contributory pension scheme. Good salaries paid to suitable men. Reply stating age, experience, and salary required.—Box 704, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

BRITISH WORK ON PERSIAN RAILWAYS. The achievements and difficulties of the R Es. during the 15 months in which they laid the foundation for effective aid to Russia. Reprinted from *The Railway Gazette*, February 2 and 16, 1945. Price 1s. Post free 1s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

GLOUCESTER RAILWAY CARRIAGE & WAGON CO. LTD., Gloucester, require the services of experienced rolling-stock Draughtsmen. Five-day week. Staff pension scheme. Apply, stating age, details of experience, and salary required, to Chief Designer.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with International traffic, principally on the European Continent. 2s. By post 2s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY STORE METHODS. By W. H. Jarvis. Great Western Railway. The necessity for training officers—Organisation of stores department—Stores accounts. Cloth. 7¼ in. by 5 in. 116 pp. With diagrams. 4s. By post 4s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

adjoining office building at Derby Works were lost through fire. Though the damage was substantial, Mr. Elliot felt that in the circumstances Mr. Ivatt should be congratulated, first, that there was no loss of life or injury to the staff, second, that by the efforts of the town and works brigades the fire was successfully contained within the region of its source, and, third, that it was possible to quickly reorganise all services essential to the maintenance of production and continued employment. Mr. Elliot asked Mr. Ivatt to convey to the men of the fire brigades and all members of his staff concerned, gratitude for their labour in preventing what might have become a more grievous and costly occasion, also for their co-operation in enabling him to maintain the productive capacity of the works without serious interruption. Mr. Elliot concluded by saying that Sir Eustace Missenden, Chairman, Railway Executive, had been informed of the matter and had asked that his name be associated with the letter of appreciation.

**Additional Railway Catering Facilities.**—The Hotels Executive has now arranged for "short" breakfasts at 2s. 6d. as an alternative to the full breakfast at 3s. 6d., to be served in restaurant cars in all Regions of British Railways. Other new or improved facilities include night trolley refreshment service at Liverpool Street Station on Friday, Saturday, and Sunday nights, and nightly at Perth General; sale of hot soup and snacks at Chester General; and the enlarged and reconditioned tea room at the Kyle of Lochalsh.

**"Safety at Sea" Exhibition.**—The Minister of Transport, Mr. Alfred Barnes, on April 24, opened a "Safety at Sea" exhibition at Charing Cross Station, London Transport, sponsored by the London Transport Executive in collaboration with the General Post Office and the Marconi International Marine Co. Ltd. Among those present were Colonel J. A. Mulholland, Mayor of Westminster; Lord Latham, Chairman, London Transport Executive; Sir Edward Crowe, Acting Chairman of the Marconi Company; and representatives of London Transport, of the G.P.O., and of shipping and marine radio interests. The theme of the exhibition, which will remain open until May 20, is the development of wireless since 1900 for the use and safety of those at sea, and the progress made in communication equipment and radio aids to navigation.

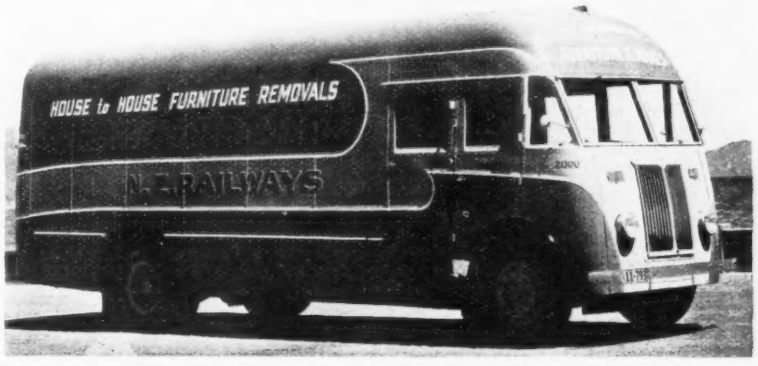
**North Eastern Region Stations to be Closed.**—After the end of the present winter timetable on June 3, Forge Valley, Wykeham, Sawdon, Snainton and Ebberston stations on the North Eastern Region Pickering-Seamer line will be closed for both passenger and freight traffic. From the same date Thornton Dale Station will be closed for passengers, but will continue to deal with parcels and freight traffic. The United Automobile Services operate a frequent road service for passengers along the route from which trains are being withdrawn. Parcels conveyed by passenger train will continue to be collected and delivered in the area by British Railways and parcels agencies in the principal villages will accept parcels for forwarding by rail. Freight traffic in full truck loads will be dealt with at other stations in the vicinity, and, if desired, the Railway Executive will arrange, in conjunction with the Road Haulage Executive, for cartage between traders' premises and the appropriate station. Motor services for the collection and delivery of smalls traffic by freight train will continue to operate.

**Brush (Far East) Limited.**—A company known as Brush (Far East) Limited has been formed with registered offices in Ocean Buildings, Singapore, to be factory representatives of Petter, Petter-Fielding, McLaren, Mirrlees, National, and Meadows diesel engines, and of the products of Bryce Fuel Injection Limited and the Brush Electrical Engineering Co. Ltd. in Malaya, Indonesia, French Indo-China, Borneo, Sarawak, Siam, Philippines, China, Hong Kong, Japan, Formosa, and Ceylon. Mr. H. F. Clements is Chairman, and the Hon. A. C. Geddes, Mr. F. A. Vaughan, Mr. A. A. King are directors of the company. The individual companies will continue to sell their products through their existing agents.

**Conversion of Leyland Bus to Pantechnicon.**—After 15 years of useful work as a bus the Leyland Lion L.P.4 vehicle illustrated below has been given a further lease of life as a pantechnicon by the New Zealand Railways. Although the chassis has completed more than 600,000 miles since it was delivered in 1935 for bus service it still has its original engine and gearbox. The vehicle has been equipped with a 1,176 cu. ft. capacity body, panelled in 18-gauge aluminium over a steel framework, built up from standard bus body sections by New Zealand Motor Bodies Limited. The full-fronted cab, built integral with the van body, has a separate compartment for the crew behind the driving seat, and at the rear the lower half of the doors is specially reinforced and hinged to form a loading ramp.

**Smiths Electric Vehicles.**—We have been informed that Smiths Electric Vehicles are not now associated with Northern Coachbuilders Limited, Newcastle-on-Tyne, as was stated in an article appearing on page 458 of our April 21 issue.

**Public Transport Association Conference.**—The annual conference of the Public Transport Association was held at Brighton on April 25-27. Mr. G. F. Sinclair, Chairman of the Council of the Association and Chief Technical Planning Officer, London Transport Executive, presided, assisted by Mr. R. I. H. Longman, Chairman & Managing Director of Hants & Dorset Motor Services Limited, and Mr. W. T. James, of the British Electric Traction Co. Ltd. The Mayor of Brighton welcomed the delegates on April 26, after which the meeting considered the report of the council for 1949. During the annual dinner held on the same day Mr. Sinclair proposed the toast of "The Corporation of Brighton and our Guests." Delegates were entertained on April 27 at a reception and cabaret. Papers were read during the conference by Mr. A.




*Leyland vehicle used by the New Zealand Railways for furniture removals after 15 years in bus service (see paragraph above)*

Twidle, British Electric Traction Federation, dealing with economic and other factors affecting the design of public service vehicles, and by Mr. A. E. Thursby, Imperial Chemical Industries Limited, covering the subject of paint and its application by spray to buses, trolleybuses, and coaches. Visits made included the British Railways, Southern Region, Brighton (locomotive) and Lancing (carriage) Works.

**Road Haulage and the Petrol Tax.**—A statement has been issued by the Road Haulage Association to the effect that the proposed increase in the price of petrol and the 33⅓ per cent. purchase tax on new commercial vehicles is an attempt to eliminate the operator carying goods under free enteprise and to bolster up the nationalised transport organisation. A preliminary calculation made by the R.H.A. shows that the increases will add another 10 per cent. to operating costs, which must be passed on to trade and industry in the form of increased transport charges.

**Ductile Cast Iron Manufacture Filmed.**—A pre-view of a film entitled "And Now" was held in London on April 20. This film, which shows the production of magnesium treated iron with graphite in spheroidal form by Lloyds (Burton) Limited, was introduced by Mr. F. N. Lloyd, Joint Managing Director of F. H. Lloyd & Co. Ltd. The successful development of the magnesium process is the result of research over a number of years in the laboratories of the International Nickel Company and the Development Department of the Mond Nickel Co. Ltd. Mr. G. R. Strauss, Minister of Supply, remarked that the development of this material should be of considerable interest in view of its possible applications in the engineering industry. The film was made under the technical supervision of Mr. A. B. Lloyd, Sales Director, F. H. Lloyd & Co., Ltd., and those present at the preview included Sir Alan Barlow, Iron & Steel Board, and Sir Wilfrid Ayre, Railway Executive.

## Forthcoming Meetings

April 29 (*Sat.*) to May 14 (*Sun.*).—Liege International Fair; Mining, Metallurgy, Mechanical and Electrical Engineering.

April 29 (*Sat.*).—British Railways, Southern Region, Lecture & Debating Society. Visit to Southampton Docks and the *Queen Mary*.

May 3 (*Wed.*).—Institute of Traffic Administration, London Centre, at Caxton Hall, Westminster, at 7 p.m. Annual general meeting.

May 4 (*Thu.*).—Institution of Locomotive Engineers, at St. Ermin's Hotel, Caxton Street, Westminster, London, S.W.1, at 5.30 p.m. Informal meeting during which there will be a showing of four films.

May 5 (*Fri.*).—Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, at 5.30 p.m. Discussion: "Education and Training in Engineering Management," to be introduced by Mr. H. G. Nelson, A.M.I.Mech.E.

May 6 (*Sat.*).—Electric Railway Society, at Fred Tallant Hall, Drummond Street, London, N.W.1, at 3 p.m. "Early Underground Signalling and its Developments," by Mr. T. S. Lascelles.

## Railway Stock Market

British Funds showed a further moderate rise in response to market views as to the terms of the expected big British Electricity issue. Industrial shares, though steady, were not very active, there having been a tendency for buying interst to centre on overseas shares, among which rubbers were particularly strong in response to the rise in commodity price to its highest level since 1926. Foreign Rails were more active, with United of Havana stocks prominent on latest reports regarding takeover negotiations. The latest reports are not official, and give no satisfactory basis for estimating the likely pay-out terms for individual stocks. Nevertheless, it is hoped in the market that in the event of the negotiations succeeding the 1906 debentures may have a pay-out of over £30. At the time of going to press the market price has risen to 27¼, which represents a sharp advance compared with a week ago.

Cuban debentures however have risen 5 points to 50, the 4¼ per cent. Western debentures rose to 22, and the 4 per cent. debentures were 15.

Leopoldina stocks have been a firmer market in general confidence that the pay-out scheme will go through. Leopoldina ordinary was 9⅛, the preference stock 25, the 4 per cent. debentures 94, and the 6½ per cent. debentures 132½. Leopoldina Terminal debentures were 90 and the ordinary units 2s. Great Western of Brazil have risen to 142s. 6d. which, however, compares with the estimated pay-out of at least 155s. Brazil Rail gold bonds were 42½ and elsewhere, San Paulo 10s. ordinary rose sharply to 16s. 4½d. reflecting hopes that there may be a move to speed up a decision on the company's outstanding compensation claims.

In other directions, Paraguay Central prior lien debentures changed hands at 36½, Chilian Northern 5 per cent. first debentures at 34½, and Nitrate Rails shares were 72s. 6d., while Taltal remained active around 19s., Antofagasta ordinary was 8 and the preference 42½.

Canadian Pacifics have been active around 29½ and the 4 per cent. debentures strengthened to 96½. Manila "A" debentures were 86 and the preference shares 8s. 9d.

Road transport shares have been fairly well maintained despite the higher costs the industry has to face as a result of the budget. Shareholders are fortified by the knowledge that in the past the industry has shown success in meeting higher costs by increased efficiency; and the view prevails that despite the difficulties which have now developed, prospects of dividends being maintained are reasonable.

Southdown, however, have come back from 125s. to 121s. 3d., West Riding were 60s., Lancashire Transport 80s., Potteries Motor Traction 51s. 3d. and British Electric Traction deferred stock fell back sharply to 415.

Iron and steel shares were generally firm. Vickers at 27s. 10½d. were slightly lower on the 6¼ per cent. dividend, which is the same as the previous year's 12½ per cent. paid before the capital was doubled by the 100 per cent. share bonus. Guest Keen were 42s. 6d., the results of Guest Keen Baldwins having encouraged hopes that Guest Keen's results, due shortly, will also create an excellent impression.

John Brown have been good at 26s. 6d. on the latest extension to the company's engineering and allied activities. Clarke Chapman were at 47s. 9d. and Babcock & Wilcox firmed up to 58s. 3d. Moreover South Durham Steel were better at 30s., Hadfields 25s. and United Steel 24s. 6d. the yields apparently attracting buyers.

Shares of locomotive builders and engineers remained under the influence of the good impression created by the financial results recently issued. Owing to the big orders on hand, the market assumes excellent prospects of dividends being maintained, and despite their recent rise, most shares still offer yields attractive when compared with the average return on industrial shares.

Vulcan Foundry were firm at 19s. 6d. with Beyer Peacock 21s., North British Locomotive 17s. 9d., Gloucester Wagon 47s. 6d. and Wagon Repairs 5s. shares 16s. 9d. Hurst Nelson were 57s. 6d. at Glasgow.

As was to be expected, British Transport stocks have participated in the uptrend in gilt-edged, Transport 3 per cent. (1978-88) at the time of going to press being 89½.

### Traffic Table of Overseas and Foreign Railways

| | Railway | Miles open | Week ended | Traffics for week: Total this year | Traffics for week: Inc. or dec. compared with 1947/48 | No. of week | Aggregate traffics to date: Total 1948/49 | Aggregate traffics to date: Increase or decrease |
|---|---|---|---|---|---|---|---|---|
| South & Central America | Antofagasta ... | 811 | 16.4.50 | £ 57,860 | + £ 9,230 | 15 | £ 871,684 | — £ 141,530 |
| | Costa Rica ... ... | 281 | Feb., 1950 | c685,032 | — c248,448 | 35 | c6,604,802 | — c1,416,433 |
| | Dorada ... ... | 70 | Mar., 1950 | 48,466 | + 17,609 | 13 | 126,471 | + 35,901 |
| | Inter. Ctl. Amer. ... | 794 | Feb., 1950 | $1,181,630 | + $182,446 | 8 | $2,468,266 | + $379,280 |
| | La Guaira ... ... | 22¾ | Mar., 1950 | $105,900 | — $7,858 | 13 | $263,249 | — $66,504 |
| | Nitrate ... ... | 382 | 15.4.50 | 22,401 | + 4,049 | 15 | 143,095 | + 19,476 |
| | Paraguay Cent. ... | 274 | 14.4.50 | ₰ 51,981 | + ₰ 66,866 | 41 | ₰ 5,922,856 | + ₰ 71,669,883 |
| | Peru Corp. ... | 1,050 | Mar., 1950 | $7,191,700 | + $2,915,939 | 39 | $53,397,058 | + $17,361,599 |
| | " (Bolivian Section) | 66 | Mar., 1950 | Bs.5,608,500 | — Bs.3,076,230 | 39 | Bs.87,346,664 | + Bs. 10,603,167 |
| | Salvador ... ... | 100 | Dec., 1949 | c278,000 | + c11,000 | 26 | c730,000 | — c46,000 |
| | Taltal ... ... | 154 | Mar., 1950 | 17,595 | + 6,185 | 39 | 120,640 | + 40,300 |
| Canada | Canadian National† | 23,473 | Feb., 1950 | 12,255,000 | — 45,000 | 8 | 23,935,000 | — 801,000 |
| | Canadian Pacific† ... | 17,037 | Feb., 1950 | 8,801,000 | — 166,000 | 8 | 16,982,000 | — 1,240,000 |
| Various | Barsi Light* ... | 167 | Mar., 1950 | 34,522 | + 3,022 | 52 | 358,762 | + 22,275 |
| | Egyptian Delta ... | 607 | 28.2.50 | 15,096 | + 191 | 48 | 626,544 | — 42,887 |
| | Gold Coast... ... | 536 | Feb., 1950 | 234,159 | — 6,199 | 48 | 2,547,700 | + 163,206 |
| | Mid. of W. Australia | 277 | Feb., 1950 | 30,534 | + 3,578 | 35 | 242,095 | + 12,087 |
| | Nigeria ... ... | 1,900 | Jan., 1950 | 502,360 | + 38,978 | 44 | 5,017,814 | + 266,573 |
| | South Africa ... | 13,347 | 25.3.50 | 1,410,483 | + 27,331 | 51 | 75,349,318 | + 5,326,242 |
| | Victoria ... ... | 4,744 | Jan., 1950 | 2,000,259 | + 490,658 | 31 | — | — |

* Receipts are calculated @ 1s. 6d. to the rupee

† Calculated at $3 to £1